Volume 168 July-December 1985

NATIONAL GEOGRAPHIC

INDEX

July-December 1985

VOLUME 168

PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
WASHINGTON, D. C.

UMI

NATIONAL GEOGRAPHIC SOCIETY

WASHINGTON, D. C.

Organized "for the increase and diffusion of geographic knowledge"

GILBERT HOVEY GROSVENOR
Editor, 1899-1954; President, 1920-1954
Chairman of the Board, 1954-1966

THE NATIONAL GEOGRAPHIC SOCIETY is chartered in Washington, D. C., in accordance with the laws of the United States, as a nonprofit scientific and educational organization. Since 1890 the Society has supported more than 2,800 explorations and research projects, adding immeasurably to man's knowledge of earth, sea, and sky.

GILBERT M. GROSVENOR, President
OWEN R. ANDERSON, Executive Vice President
ALFRED J. HAYRE, Vice President and Treasurer
FREDERICK C. GALE, LEONARD J. GRANT, JOSEPH B. HOGAN,
JAMES P. KELLY, ADRIAN L. LOFTIN, JR., LEWIS P. LOWE,
RAYMOND T. McELLIGOTT, JR., CLETIS PRIDE, Vice Presidents
EDWIN W. SNIDER, Secretary SUZANNE DUPRE, Corporate Counsel

BOARD OF TRUSTEES

MELVIN M. PAYNE, Chairman of the Board
OWEN R. ANDERSON, Vice Chairman
LLOYD H. ELLIOTT, Vice Chairman
President, George Washington University
THOMAS W. McKNEW, Advisory Chairman

THOMAS E. BOLGER
Chairman of the Board, Bell Atlantic

FRANK BORMAN, Chairman of the Board and President, Eastern Airlines

LEWIS M. BRANSCOMB
Vice President and Chief Scientist, IBM Corporation

ROBERT L. BREEDEN

J. CARTER BROWN, Director, National Gallery of Art

WARREN E. BURGER
Chief Justice of the United States

MICHAEL COLLINS
President, Michael Collins Associates

GEORGE M. ELSEY, President Emeritus, American Red Cross

WILBUR E. GARRETT

GILBERT M. GROSVENOR

ARTHUR B. HANSON
Counsel Emeritus

A. LEON HIGGINBOTHAM, JR.
Judge, U. S. Court of Appeals for the Third Circuit

CARLISLE H. HUMELSINE
Chairman of the Board, The Colonial Williamsburg Foundation

MRS. LYNDON B. JOHNSON

CURTIS E. LeMAY, Former Chief of Staff, U. S. Air Force

LAURANCE S. ROCKEFELLER
Honorary Chairman, Memorial Sloan-Kettering Cancer Center

B. FRANCIS SAUL II
President, B. F. Saul Company

ROBERT C. SEAMANS, JR.
Department of Aeronautics and Astronautics, Massachusetts Institute of Technology

JAMES H. WAKELIN, JR., Former Assistant Secretary of the Navy for Research and Development

CONRAD L. WIRTH, Former Director, National Park Service

Trustees Emeritus

CRAWFORD H. GREENEWALT
CARYL P. HASKINS
WM. McCHESNEY MARTIN, JR.
FREDERICK G. VOSBURGH
JAMES E. WEBB

COMMITTEE FOR RESEARCH AND EXPLORATION

MELVIN M. PAYNE, Chairman
T. DALE STEWART, BARRY C. BISHOP, Vice Chairmen
HARM J. DE BLIJ, Editor, *National Geographic Research*
EDWIN W. SNIDER, Secretary

GILBERT M. GROSVENOR, CARYL P. HASKINS, Former President, Carnegie Institution of Washington, THOMAS W. McKNEW, BETTY J. MEGGERS, Research Associate-Anthropology, Smithsonian Institution, PETER H. RAVEN, Director, Missouri Botanical Garden, CHARLES H. SOUTHWICK, Professor of Biology, University of Colorado, GEORGE E. STUART, JAMES H. WAKELIN, JR., GEORGE E. WATSON, Former Curator of Birds, Smithsonian Institution, FRANK C. WHITMORE, JR., Research Geologist, U. S. Geological Survey, CONRAD L. WIRTH, HENRY T. WRIGHT, Professor of Anthropology, University of Michigan, and PAUL A. ZAHL

ADMINISTRATION

ASSISTANT VICE PRESIDENTS: Thomas E. Kulikosky, Ross L. Mulford, Ward S. Phelps, Carl M. Shrader. **ASST. TREASURER:** H. Gregory Platts. **ASSTS. TO THE PRESIDENT:** Joyce W. Graves, Richard E. Pearson

Accounting: Dorothy J. Edwards, Jay H. Givans, Laura L. Leight, William G. McGhee, George E. Newstedt. *Administration:* D. Evelyn Carnahan, Robert V. Koenig, Zbigniew Jan Lutyk, Marta M. Marschalko, Myra A. McLellan, Jennifer Moseley, Shirley Neff, Janet C. Newell, Jimmie D. Pridemore, Joyce S. Sanford, Frank M. Twigger. *Computer:* James G. Schmelzer, William L. Chewning, Ronald C. Kline, Richard A. Mechler, Harold E. Smith. *Educational Services:* Wendy G. Rogers, Dean R. Gage, Carl W. Harmon, Jr., Albert Meyer. *Employee Benefits:* Howard R. Hudson. *Membership Services:* Margaret L. Bassford, Robert C. Dove, William T. McDonnell, Paul B. Tylor, Dorothy M. Wagner, Marguerite M. Wise, Peter F. Woods. *Personnel:* Robert E. Howell, Glenn G. Pepperman, Shirley N. Wilson. *Promotion:* Joseph S. Fowler, Joan Anderson, Eileen W. Bowering, James R. Dimond, Jr., Robert L. Feige, Thomas M. Kent, Charles T. Kneeland, F. William Rath. *Purchasing:* Robert G. Corey, Thomas L. Fletcher, Sheila H. Immel

PRODUCTION SERVICES

Photographic Laboratories and Typesetting: Milton A. Ford, Lawrence F. Ludwig, Herbert Altemus, Jr., Billy R. Barnett, Richard A. Bredeck, David H. Chisman, Ellwood M. Kohler, Jr., Geoffrey T. McConnell, William S. Petrini, Bernard G. Quarrick, Joan S. Simms, James H. Trott, Alfred M. Yee. *Printing:* Hans H. Wegner, Joseph M. Anderson. *Quality:* Joe M. Barlett, Frank S. Oliverio

ADVERTISING

Director: George E. Moffat, 1251 Avenue of the Americas, New York 10020. *Sales Mgr.-East:* William K. Hughes. *Sales Mgr.-West:* Philip G. Reynolds. *Office Mgrs.—Detroit:* O. W. Jones, Jr. *Los Angeles:* Robert D. Johnson. *San Francisco:* James D. Shepherd. *International Adv. Director:* Michel A. Boutin, 90 Ave. de Champs Élysées, Paris. *Marketing/Sales Dev.:* Alex MacRae. *Promotion:* Pandora Browne. *Research:* Renee A. Schewe. *Business:* David R. Stein. *Admin.:* Blanche Coffey. *Production:* G. Sarita Lapham, Washington.

COPYRIGHT © 1985 National Geographic Society, 17th and M Sts. N.W., Washington, D. C. 20036.

MELVIN M. PAYNE *Chairman of the Board*

NATIONAL GEOGRAPHIC MAGAZINE

GILBERT M. GROSVENOR *President*
WILBUR E. GARRETT *Editor*
JOSEPH JUDGE *Senior Associate Editor*
THOMAS R. SMITH *Associate Editor*

SENIOR ASSISTANT EDITORS

Richard C. Clarkson, *Photography* John B. Garver, Jr., *Cartography*
William Graves, *Expeditions* Robert P. Jordan, *Special Projects*
Edward J. Linehan, *Manuscripts* Samuel W. Matthews, *Production*
O. Louis Mazzatenta, *Control Center* Charles McCarry, *Contract Writers*
Howard E. Paine, *Art* Carolyn Bennett Patterson, *Legends*
W. Allan Royce, *Illustrations* Mary G. Smith, *Research Grant Projects*
Kenneth F. Weaver, *Science* Ann K. Wendt, *Research*

TEXT

ASSISTANT EDITORS: Kent Britt, Thomas Y. Canby, Rowe Findley, Bart McDowell, Elizabeth A. Moize, Merle Severy
SENIOR WRITERS: Thomas J. Abercrombie, David S. Boyer, Mike Edwards, William S. Ellis, Rick Gore, Noel Grove, John J. Putman, Peter T. White
SENIOR EDITORIAL STAFF: Harvey Arden, Robert Booth, Allen A. Boraiko, John L. Eliot, Boyd Gibbons, Alice J. Hall, Bryan Hodgson, David Jeffery, Michael E. Long, Priit J. Vesilind. *Production:* John L. McIntosh
EDITORIAL STAFF: Judith Brown, Larry Kohl, Douglas Lee, Louise E. Levathes, Peter Miller, Cathy Newman, Cliff Tarpy, Jane Vessels
RESEARCH: Lesley B. Rogers (Assoc. Dir.); Michaeline A. Sweeney (Asst. Dir.); *Researcher-Editor:* Susan L. Anderson. *Researchers:* Carolyn H. Anderson, Rebecca Beall, Ann B. Henry, Jan Holderness, Kathy B. Maher, Barbara W. McConnell, Jean B. McConville, Margaret S. Nottingham, Jeanne E. Peters, Frances W. Shaffer, Abigail A. Tipton. *Legends:* Victoria C. Ducheneaux. *Planning Council:* Julia G. Grover, Mary McPeak

ILLUSTRATIONS

PHOTOGRAPHERS: Dean Conger, Joseph J. Scherschel (Assistant Directors); James L. Amos, Joseph H. Bailey, James P. Blair, Victor R. Boswell, Jr., Jodi Cobb, Bruce Dale, David Alan Harvey, Otis Imboden, Emory Kristof, Joseph D. Lavenburg, Bianca Lavies, Bates Littlehales, George F. Mobley, Steve Raymer, Robert F. Sisson (*Nat. Science*), James L. Stanfield. *Admin.:* Claude E. Petrone, Susan A. Smith
ILLUSTRATIONS EDITORS: Robert W. Hernandez (Assistant Director); William L. Allen, David L. Arnold, William T. Douthitt, Taylor Gregg, Kent J. Kobersteen, Bruce A. McElfresh, Charlene Murphy, Robert S. Patton, Elie S. Rogers, Jon Schneeberger, Susan Welchman
LAYOUT: Robert W. Madden (Assistant Director); Constance H. Phelps
ART: Jan Adkins, J. Robert Teringo (Associate Directors); Allen Carroll (Asst. Dir.); *Artist:* William H. Bond. *Design:* Charles C. Uhl (Asst. Dir.); Betty Clayman-DeAtley
ENGRAVING AND PRINTING: William W. Smith (Director); James R. Whitney (Assoc. Dir.); Bill M. Aldridge, John T. Dunn, Judy L. Garvey, John W. Gergel

CARTOGRAPHY

John F. Shupe (Assoc. Dir.); Harold E. Aber, Jr. (Sr. Asst. Dir.); Walter Q. Crowe, John F. Dorr, Harold A. Hanson, Harry D. Kauhane, Richard K. Rogers, Elie Sabban (Asst. Dirs.). *Map Editors:* Thomas A. Walsh (Supvr.); John T. Blozis, Russel G. Fritz, Charles W. Gotthardt, Jr., Thomas L. Gray, Gus Platis. *Artists:* Lisa Biganzoli, John W. Lothers, Nancy Schweickart, Sally Suominen-Summerall, Tibor G. Toth. *Archaeologist:* George E. Stuart. *Geographer:* Ted Dachtera. *Researchers:* Timothy J. Carter, Ross M. Emerson, Gail C. Foley, Marguerite B. Hunsiker, Gaither G. Kyhos, Mary C. Latham, Dorothy A. Nicholson, Douglas A. Strobel, John R. Treiber, Susan Young. *Text:* Oliver G. A. M. Payne. *Map Artists:* Roland R. Nichols, Leo B. Zebarth (Supvrs.); Iskandar Baday, James E. McClelland, Jr., Alfred L. Zebarth. *Specialists:* Charles F. Case, Richard J. Darley, Martin J. Golden, Thomas A. Wall. *Scheduling:* Charles L. Miller, Henri A. Delanghe. *Admin.:* Catherine M. Hart

EDITORIAL SERVICES

ADMINISTRATION: M. Jean Vile (Asst. to the Editor); Elaine Rice Ames, Marie L. Barnes, G. Merrill Clift, Marisa Domeyko, Neva L. Folk, Lilian Davidson, Virginia H. Finnegan, Eleanor W. Hahne, Ellen E. Kohlberg, Liisa Maurer, Katherine P. McGown, Lucille L. McInerney, Carol D. Rhoads, Emmy Scammahorn. *Picture Requests:* Barbara A. Shattuck. *Correspondence:* Carolyn F. Clewell, Gwendolyn C. Blackman, Joseph M. Blanton, Jr. *Indexes:* Jolene M. Blozis. *Travel:* Virginia A. Bachant
LIBRARIES: *Publications:* Susan Fifer Canby (Director); Patricia Murphy Smith, Margery K. Barkdull, Arlene T. Drewes, Carolyn Locke, Marta Strada. *Records & Illustrations:* Lorie Northrop (Director); L. Fern Dame, Mary Anne McMillen, Carolyn J. Harrison, Jeannette S. Mooberry, Mennen M. Smith. *Films:* Betty G. Kotcher
NEWS SERVICE: Paul Sampson (Director); Joy Aschenbach, Mercer Cross, Kenneth C. Danforth, Donald J. Frederick, Barbara S. Moffet, Boris Weintraub. *Radio:* Robert C. Radcliffe
AUDIOVISUAL: Joanne M. Hess (Director); Jon H. Larimore (Tech. Director); Ronald S. Altemus, Robert G. Fleegal, Paul Gorski, Gerald L. Wiley

RELATED EDUCATIONAL SERVICES OF THE SOCIETY

ROBERT L. BREEDEN *Vice President*

William R. Gray (Exec. Asst.); Suzanne J. Jacobson (Asst. to the Vice Pres.)
BOOK SERVICE: Charles O. Hyman (Director and Sr. Asst. Ed.); Ross Bennett (Assoc. Dir.); David M. Seager (Art Dir.); Greta Arnold, Mary Dickinson, Karen F. Edwards, Anne D. Kobor, J. Edward Lanouette, Carol B. Lutyk, Linda B. Meyerriecks, Elizabeth Newhouse, Melanie Patt-Corner, R. M. Poole, Suzanne K. Poole, David F. Robinson, Lise Sajewski, Shirley Scott, Margaret Sedeen, Susan E. Sidman, Penelope Timbers, Jonathan Tourtellot, Richard Wain. **SPECIAL PUBLICATIONS:** Donald J. Crump (Director and Sr. Asst. Ed.); Philip B. Silcott (Assoc. Dir.); Jody Bolt (Art Dir.); John G. Agnone, Jane H. Buxton, Margery G. Dunn, Seymour L. Fishbein, Ron Fisher, Patricia F. Frakes, Barbara Grazzini, Sallie M. Greenwood, Mary Ann Harrell, Charles E. Herron, Stephen J. Hubbard, Bonnie S. Lawrence, Christine E. Lee, Tee Loftin, Jane R. McCauley, Tom Melham, Robert Messer, H. Robert Morrison, Thomas O'Neill, Barbara A. Payne, Thomas B. Powell III, Cynthia Ramsay, David V. Showers, Gene S. Stuart, Jennifer C. Urquhart. **WORLD:** Pat Robbins (Editor); Margaret McKelway (Assoc. Ed.); Ursula Vosseler (Art Dir.); Jacqueline Geschickter, Pat Holland, Joan Hurst, Veronica Morrison, Judith Rinard, Eleanor Shannahan. **EDUCATIONAL MEDIA:** George Peterson (Director); Jimmie Abercrombie, David F. Beacom, James B. Caffrey, Toni Eugene, Sandra L. Matthews. **TRAVELER:** Joan Tapper (Editor); David R. Bridge (Illus. Dir.); Suez B. Kehl (Art Dir.). **PUBLICATIONS ART:** John D. Garst, Jr. (Director); Virginia L. Baza (Asst. Dir.). *Map Artists:* Isaac Ortiz, Peter J. Balch
TELEVISION AND FILMS: Dennis B. Kane (Director); Sidney Platt (Director, Educational Films); Donald M. Cooper, Anne B. Keiser, Yeorgos N. Lampathakis, Karen S. Marsh, Louise C. Millikan, Marjorie M. Moomey, Nola L. Shrewsberry, Kathleen F. Teter, Carl E. Ziebe

Contents

Page

JULY 1985

EDITOR'S PAGE 1
ISRAEL: SEARCHING FOR THE CENTER 2
By Priit J. Vesilind, with photographs by James L. Stanfield
16TH-CENTURY BASQUE WHALERS IN AMERICA 40
Photographs by Bill Curtsinger, and paintings by Richard Schlecht
I. DISCOVERY IN LABRADOR: A 16TH-CENTURY BASQUE WHALING PORT AND ITS SUNKEN FLEET 40
II. UNEARTHING RED BAY'S WHALING HISTORY 50
By James A. Tuck
III. EXCAVATING A 400-YEAR-OLD BASQUE GALLEON 58
By Robert Grenier
IV. THE INDOMITABLE BASQUES 69
By Robert Laxalt
HAMPTON ROADS, WHERE THE RIVERS END 72
By William S. Ellis, with photographs by Karen Kasmauski
IRAN UNDER THE AYATOLLAH 108
Text and photographs by Michael Coyne (The Image Bank)
SAVING THE WORLD'S LARGEST FLOWER 136
By Willem Meijer, with photographs by Edward S. Ross

AUGUST 1985

EDITOR'S PAGE 141
OUR RESTLESS PLANET EARTH 142
By Rick Gore, with photographs by James A. Sugar (Black Star)
THE SHAPING OF A CONTINENT; EARTH'S DYNAMIC CRUST—double supplement map
FOSSILS: ANNALS OF LIFE WRITTEN IN ROCK 182
Photographs by James L. Amos, with text by David Jeffery
THE PEARL 193
Article and photographs by Fred Ward (Black Star)
SENEGAMBIA—A NOW AND FUTURE NATION 224
Article and photographs by Michael and Aubine Kirtley
THE LAND WHERE THE MURRAY FLOWS 252
By Louise E. Levathes, with photographs by David Robert Austen

SEPTEMBER 1985

EDITOR'S PAGE 279
SICHUAN: WHERE CHINA CHANGES COURSE 280
By Ross Terrill, with photographs by Cary Wolinsky (Stock, Boston)
HUMBOLDT'S WAY 318
Article and photographs by Loren McIntyre
HOME TO KANSAS 352
By Cliff Tarpy, with photographs by Cotton Coulson
CENTRAL PLAINS, The Making of America series—double supplement map
ERITREA: REGION IN REBELLION 384
Photographs and text by Anthony Suau (Black Star)
JASON'S VOYAGE: IN SEARCH OF THE GOLDEN FLEECE 406
By Tim Severin, with photographs by John Egan and Seth Mortimer

UMI

Page

OCTOBER 1985

EDITOR'S PAGE 421
WRECK OF H.M.S. *PANDORA* 423
By Luis Marden
THE TWO SAMOAS, STILL COMING OF AGE 452
By Robert Booth, with photographs by Melinda Berge
ARABIA'S FRANKINCENSE TRAIL 474
By Thomas J. Abercrombie, with photographs by Lynn Abercrombie
THE USUMACINTA RIVER: TROUBLES ON A WILD FRONTIER 514
By S. Jeffrey K. Wilkerson, with photographs by David Hiser
THE TRIUMPHANT TRUMPETER (SWAN) 544
By Charles A. Bergman, with photographs by Art Wolfe

NOVEMBER 1985

EDITOR'S PAGE 559
THE SEARCH FOR OUR ANCESTORS 560
By Kenneth F. Weaver, with photographs by David L. Brill and paintings by Jay H. Matternes
HOMO ERECTUS UNEARTHED 624
By Richard Leakey and Alan Walker, with photographs by David L. Brill
KLUANE: CANADA'S ICY WILDERNESS PARK 630
By Douglas Lee, with photographs by George F. Mobley
KLUANE: A CENTURY OF EXPLORATION 654
By Barry C. Bishop
CANADA; CANADA'S VACATIONLANDS—double supplement map
THE GREAT GOOD PLACES: ENGLISH COUNTRY HOUSES 658
By Mark Girouard, with photographs by Fred J. Maroon

DECEMBER 1985

EDITOR'S PAGE 695
HOW WE FOUND *TITANIC* 696
By Robert D. Ballard in association with Jean-Louis Michel
VATICAN CITY 723
By James Fallows, with photographs by James L. Stanfield
THE PHOTOGRAPHER'S PERSPECTIVE 762
By James L. Stanfield
TREASURES OF THE VATICAN 764
Photographs by James L. Stanfield and Victor R. Boswell, Jr.
NICARAGUA: NATION IN CONFLICT 776
By Mike Edwards, with photographs by James Nachtwey (Black Star)
DANIEL BOONE, FIRST HERO OF THE FRONTIER 812
By Elizabeth A. Moize, with photographs by William Strode
OHIO VALLEY, The Making of America series—double supplement map
KEY TO '85 842
A guide to articles in the 1985 issues of NATIONAL GEOGRAPHIC

Index

VOLUME 168 JULY-DECEMBER 1985

July pp. 1-140
August pp. 141-278
September pp. 279-420
October pp. 421-558
November pp. 559-694
December pp. 695-842

Titles and illustrations in boldface

A

Abd al-Majid, Caliph 505
Abdullah, Muhammad 501
Abdullah ibn Suleiman ibn Obeid, Sheikh 505
Abercrombie, Lynn, photographer: ***Arabia's Frankincense Trail.*** Oct., 474-513
Abercrombie, Thomas J.: ***Arabia's Frankincense Trail.*** Oct., 474-513
Abkhazian A.S.S.R., U.S.S.R.: Gold-collecting technique **418,** 419, 420; Golden Fleece legend 418, 420; Ram cult 419, 420, objects **419;** *see also* Rioni River
Ablah, George and Virginia **373**
Abolitionists 355, 380, 381
Abomssa, Woldesenbet **595**
Aboriginals, Australian: Murray basin **266-267,** 267, 273, 274-275, 276, 277; Pearls, disdain for 198; Prehistoric hearth, remains of **268**; Prehistory 269, 275, 276
Abraha, Girmay **399**
Abraham (patriarch) 509
Abraham, Osnat **6, 7**
Abu an Naam (train depot), Saudi Arabia 506, 510
Abu Dhabi: Ruler 496
Abuko Nature Reserve, the Gambia **238**
Acadia (ship): Deck **718**
Adam, Robert 686, 692
Adams, John (*Bounty* mutineer) 449
Adelaide (paddle steamer) 270, 273
Aden, South Yemen 486, 487, 493; Museum 487, 490
Adrian VI, Pope 743
Aegean Sea: Ancient vessels 408; *Argo* expedition 407, **408,** map of route 410-411
Aegyptopithecus **563,** 579-580, 581
Aerobic respiration: Evolution 151
Afifi, Abdul Hafiz Yousif, and family **36-37**
Africa: Desertification 388, 389; Jews' emigration 5 *see also* Ethiopian Jews; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623; ***Senegambia—A Now and Future Nation.*** By Michael and Aubine Kirtley. Aug., 224-251; *see also* Eritrea; Ethiopia; *and* Turkana, Lake
Agca, Mehmet Ali 745
Aggie Grey's Hotel, Apia, Western Samoa 464, 466
Ago Bay, Japan: Cultured-pearl industry 198, **200,** 203, 205, 206, bamboo rafts **198-199,** 203
Agricultural research: Kansas 377-378, **381**
Agriculture: Israel 9-10, **18-19,** 20; Kansas **352-353,** 357, **370-371,** farm foreclosures 354, 356, land-use map 356-357; Murray basin 262, **262-263,** 263, 266; Rain forests 525, 536, ruinous effects 518-519, 528, 543; Senegambia **230-231,** 246-247; Sichuan 286, 288, 308, pig farmers ***Sept. cover,*** rice fields **308-309**; Western Samoa 454, 466-468, **471**
Aguarunas (Indians) **346-347**
Aguilera, Efraín 543
Aguwat (quarter), Medina, Saudi Arabia 505
Aircraft industry: Israel 20, **34,** 35; Kansas 352, 356, 361, 372, 374-375, 378-379, new jet design **374-375,** 379
Akça, Kaan 415
Akko, Israel: Dancers **39**
akoya oysters: Cultured-pearl industry 198, **200,** 206, 217
Alabaster carvings **495, 512**
Ala'ilima family 466-468
Alaska: Terranes 156, 158, 166-167, 167A; ***The Triumphant Trumpeter.*** By Charles A. Bergman. Oct., 544-558
Alaska Highway, Alaska-Canada **634-635,** 638, 648
Alaska Range, Alaska: Computer-drawn image **166-167**
Albuquerque, N. Mex.: Rift 177
Alcatraz block (terrane) 155-156; Computer-drawn image **154**
Aldan, Ben 159, 160
Alesana, Tofilau Eti 466
Aleutian Trench: Computer-drawn image **142**
Alexander VI, Pope 736
Alfalfa harvest: South Yemen **488**
Alif-1 (oil well), North Yemen 496
Al Jubah (ruins), North Yemen 493; Alabaster offering **495**
Alkichen, Efraim 28
Allard, William Albert **656,** 657
Al Madinah, Saudi Arabia *see* Medina
Almog, Amos **7**
Al Mohdar Mosque, Tarim, South Yemen 488, **489,** 492
Al Mukalla, South Yemen 488
Alpine Club of Canada 655
Alps, Australian: Grazing land 257; *see also* Snowy Mountains
Alsek River and Valley, Canada **630-631,** 636, 646
Altamira, Spain: Cave art 618
Altar boys: Vatican City 737, 743, **746,** 747, **747,** 749, **749,** 752
Alvarez del Toro, Miguel 529
Alvin (research submersible) **164**
Ambrona, Spain: Stone Age butchering site **610,** 612
American Bank Note Company: Hologram produced by ***Nov. cover***
American Pearl Farms 193, 218
American Revolution: Daniel Boone 812, 816, 838, Battle of Blue Licks, Ky. 816, 830, 840, painting **831**
American Samoa: ***The Two Samoas, Still Coming of Age.*** By Robert Booth. Oct., 452-473
Economy 455, 459; U.S. aid 453, 454, 456
Employment 456, 459, 460
Facts and figures 455
Fish canning 455, 459; Workers 459, **461**
Flag **455**
Government 456, 459, 460
History 455, 458
Imported food 459
Map 455
Population 454, 455
Principal city *see* Pago Pago
Religion 455; Church 457-458
Tuna exports 459
see also Tutuila
The Americas: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351; ***16th-Century Basque Whalers in America.*** July, 40-71; *see also* Central America; North America
Amharic (language) 388
Ammonites 182; Fossils **183**
Amos, James L., photographer: ***Fossils: Annals of Life Written in Rock.*** Aug., 182-191
Amphibians: Evolution 146, **149**
An (vice-mayor of Zhaojue) 297, 298, 299
Anchor: *Pandora* site **432, 433, 448-449**
Andes (mountains), South America 320, 342, 343, 344
ANGUS (undersea camera sled) 699
Anhaeusser, Carl 177
Animal sacrifice: Iran **114**
Annals of Life Written in Rock. Photos by James L. Amos. Text by David Jeffery. Aug., 182-191
Antcliff, Freda 273
Anthropology, cultural: Samoa 453, 456; *see also* Aboriginals, Australian
Anthropology, physical *see* Paleoanthropology
Antislavery movement: Kansas Territory 355, 360, 380, 381

Apia, Western Samoa 464, 466; Population 454, 464
Apolimafou, Western Samoa: Title-granting ceremony **464**
"Apollo Belvedere" (statue) 755
Apollonius Rhodius 408, 412; Quoted 408, 409, 410, 412, 415, 416, 417
Apolonio (Tzeltal Indian) 527
Apostolic Palace, Vatican City **727, 743,** 745
Appalachian Mountains, U. S. **822-823;** As bar to western settlement 812, 816, 823; Formation 169, 170; Landsat image **168**
Aqaba, Gulf of 8, **16-17**
Arab-Israeli conflict: ***Israel: Searching for the Center.*** By Priit J. Vesilind. July, 2-39
Arabian Peninsula: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Arabia's Frankincense Trail. By Thomas J. Abercrombie. Oct., 474-513
Arabs: Israeli residents **8,** 20, 38, Knesset members 20; *see also* Palestinians
Arago, France: Cave excavation **608**
Arazi, Efraim **3**
Archaeology: Guatemala 536, 538; Israel **22-23, 26-27,** 30; Mexico 532, **536, 537, 541;** Murray basin **268,** 269, **269,** 275-276; North Yemen 493, 495; Oman 483; Saint Peter's Basilica 736-737, 739, 741-742, **744, 745;** Saudi Arabia 510-511; South Yemen 490, 492; Soviet Georgia 418, 419, 420; Thessaly 409; Yukon Territory 647; *see also* Archaeology, underwater
Archaeology, underwater 421; ***How We Found*** **Titanic.** By Robert D. Ballard in association with Jean-Louis Michel. Dec., 696-719; ***16th-Century Basque Whalers in America.*** July, 40-71; ***Wreck of H.M.S.*** **Pandora.** By Luis Marden. Oct., 423-451
Archean eon 173, 176-177
Architecture *see* Houses
Archives: Burgos, Spain 48, **49**
Arco delle Campane, Vatican City 734
Arctic Institute: St. Elias Mountains, Alaska-Canada 657
Area P, St. Peter's Basilica, Vatican City 741, 742
Argo (legendary ship) 408, 409; Depictions **409, 410-411**
Argo (search vehicle) 705, **707**
Argo (wooden ship): ***Jason's Voyage: In Search of the Golden Fleece.*** By Tim Severin. Sept., 406-420
Argonautica (Apollonius Rhodius) 408, 418; Excerpts 408, 417
Argonauts (legendary Greek heroes): ***Jason's Voyage: In Search of the Golden Fleece.*** By Tim Severin. Sept., 406-420
Arias de Greiff, Jorge 341
Arieli, Joshua 35
Arnold, Joseph 136
Aronson, James 10
Arroyo Jerusalén, Mexico 528
Art collectors: Kansas **372, 373**
Art galleries *see* National Gallery of Art
Art restoration 769; Vatican City 748, 754, 755, 756, 757, **760,** 761, **761**
Artificial limbs: Iran **118-119**
Asbestos: Diseases related to 81-82, victims **93;** Insulation: U. S. Navy ships 81, 93
Asfaw, Berhane **595**
Ashdod, Israel: Political rally 17
Ashdot Yaaqov (kibbutz), Israel **18-19**
Ashkenazi Jews: Israel 12, 37
Ashqelon, Israel: Saltbush cultivation 9-10
Asia *see* Arabian Peninsula; China; China, People's Republic of; Indonesia; Iran; Israel; *and* Cultured-pearl industry
Asmera, Ethiopia 388
Assael International Inc. 212, 213
Astor, John Jacob: Death 712
Astronomy: Humboldt's contribution 336
At Taif, Saudi Arabia 503, 510; Gold dealer **510-511**
Athena: Depicted on vase **409**
Atlantic croaker (fish) **89**
Atlantic Fleet, U. S.: Headquarters 76, 79
Atlantic Ocean: Whale harvest 67; *see also Titanic*
Atlit, Israel: Ethiopian Jews **21**
Atomic energy, subterranean 171
Audubon, John James: Quoted 557
August Corporation 221
Austen, David Robert, photographer: ***The Land Where the Murray Flows.*** Aug., 252-278
Australia: Air force 437; Ancient minerals 171-172, 173; Iron ore deposit **174-175;** Jilleroo ***Aug. cover; The Land Where the Murray Flows.*** By Louise E. Levathes. Aug., 252-278; Pearls **193,** 198, 206, 211-212; *see also* Great Barrier Reef
Australian National University, Canberra, Australia 275; Scientists **269,** 276
Australopithecines: ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623
Automotive industry: Kansas 361, 370
Avenue of the Volcanoes, Ecuador 342, 344
Aviation *see* Aircraft industry
Avignon, France: 14th-century papal seat 735, 753

B

Baccelli, Giannetta: Sculpture of **675**
Bacteria: Emergence as first life form 151, 182; Fossils **182**
al-Badr, Hamad 503, 505, 510
Bailey, Ted 552
Bakeless, John: Quoted 814
Baker, Patrick 430, 446
Balatah refugee camp, West Bank, Israeli-occupied territory **36**
Baldachin: St. Peter's Basilica **720-722, 731,** 742
Baldridge, Scott 177
Ballard, Robert D. **696, 706;** ***How We Found*** **Titanic.** Dec., 696-719
Ballesteros Caballero, Floriano **49**
Ballroom dancing: China **282-283,** 311-312
Bamba, Amadou 229, 249
Banana growing: Nicaragua 787, 796, harvest **796**
Bani Ashraf tribe 495
Banjul, the Gambia 226, 239; Aerial view **228-229;** Magistrates **225;** Street vendor **251**
Baobed, Salem Muhammad 490, 491
Bar-Chaim, Yechiel 12
Bar Kokhba revolt 22
Baraqish (ruin), North Yemen 496
Barkham, Selma Huxley 41, 49, **49,** 50, 58, 64
Barmah Forest, Australia: River red gums **262,** 267
Barney Lake, Wash.: Trumpeter swans 558
Barrels, oak: Basque whalers 52, **52, 53,** 58, 62, 64
Barricada (Sandinista newspaper) 792, 795, 796
Basalt 160, 179; Paleomagnetic research **158-159**
basij (volunteer fighters): Iran 113, 114, **114-115, 116-117,** 117, 119, **125**
Basin and Range region, U. S.: Rifting 178-179
Basketball (game): Lawrence, Kansas 376
Basque (language) 69-70
Basques: ***16th-Century Basque Whalers in America.*** July, 40-71
Baum, William Cardinal 744
Baumgardner, John and Sheila **78**
Bay Fall (Mouride zealots) 229, 230
Bayhan al Qisab, South Yemen 492
Bayt Allah (mosque), Mecca, Saudi Arabia 503
Beaches: Tel Aviv 8, 12, **14-15;** Virginia **98-99,** U. S. Army troop training **95;** Western Samoa **452-453**
Bears: Sculpture **621;** *see also* Grizzly bears
Beattie, Peter **275**
Bebee, Richard **78**
Beckly, Andrew 169, 170
Bedouin (people) 9, **32,** 492, **504**
Beech Aircraft *see* Starship 1
Beef production: Kansas 361, 364-365, 370
Beersheba, Israel 9
Begin, Menachem 12, 17, 37

Bégouën, Robert 618
Behesht-e-Zahra Cemetery, Tehran, Iran 120, **120, 121**
Beheshti, Mohammed 113; Portrait **112**
Beirut, Lebanon: Warfare 35
Beit Hanun refugee camp, Gaza Strip, Israeli-occupied territory: Palestinian refugees **36-37**
Bekaa Valley, Lebanon 31
Bell, Doug **654,** 655
Belohdelie, Ethiopia: Fossils 588, 592
Ben-Gurion, David 9, 10
Ben-Gurion University research institutes, Israel 9
Ben-Ishai, Zvi 38
Benjamín Rosales, Don 540
Beresford, Charles 686
Berge, Melinda, photographer: ***The Two Samoas, Still Coming of Age.*** Oct., 452-473
Bergman, Charles A.: ***The Triumphant Trumpeter.*** Oct., 544-558
Bering Lake, Alaska: Trumpeter swans **550-551**
Berkeley Castle, Gloucestershire, England 663, 672
Bernaldo de Quiros, Federico **623**
Bernini, Gian Lorenzo 729, 730, 734, 742
Berri, Australia: Child at rodeo **267;** Historic museum 275
Bess of Hardwick *see* Talbot, Elizabeth
Bet El basic-training camp, Israel: Soldiers **7**
Bethel, Guatemala 540
The Bible: Genesis 559; Quoted: On pearls 193, on Saba 495
Billabongs: Murray River **258-259**
Binjiang Road, Zigong, China: Buses **312-313**
Biochronology: Fossil dating 589, 590, 596, 607
Biographies *see* Boone, Daniel; Humboldt, Alexander von
Bipedalism: Hominids **564-567, 574-577,** 578, 579, 585, 588, 593, **593,** fossil footprints 592, 593, **593**
Bir Hama (rock inscription site), Saudi Arabia 501
Bir Zeit University, West Bank, Israeli-occupied territory 28; Graduate **28**
Bird Jaguar (Maya ruler) 538, 541; Name glyph **541**
Birds: Kluane National Park Reserve 634, **643,** 644, **646,** 647; Murray basin 254, 256, 277, 278; Rain forest **515,** 528, 529, 532; South America **320, 335,** 336, 345, **347,** 348, **348, 349;** *see also* Chickens; Trumpeter swans
Birth control: China 295, 299, 306
Biscay, Bay of, France-Spain 69
Bishop, Barry C.: ***Kluane: A Century of Exploration.*** Nov., 654-657
Bismuna Lagoon, Nicaragua: Fishermen **802-803**
Bison: Foraging in snow **162-163;** Likenesses **619, 620-621**
Biwa, Lake, Japan: Cultured-pearl industry **201,** 201, 217
Black, Davidson 609
Black curassow: Sketch **347**
Black market: Ethiopia 403
Black-pearl oysters **194-197,** 206, 213
Black pearls **196, 197,** 206, 211, 212, 213
Black Sea 410, 415, 417; *Argo* expedition 407, **412-413, 414,** 416, 417, map of route 410-411
Blackfish (Shawnee chief) 816, 829, 835, 837
Blainey, Geoffrey 261
Blake, M. Clark, Jr. 155, 156
Blandón, Nelba Cecilia 794, 795
Blenheim Palace, Oxfordshire, England 663, 671, 678, 689; Aerial view **668-669;** Key and lock **671;** Red Drawing Room **670**
Bligh, William 426, 428, 429, 437
Bloch, Henry and Marion **372,** 376
Blom, Gertrude 529
Bloom, Lindsey, and father **634**
Blubber: Flensing **46-47;** Rendering 42, 44, 47, 51
Blue crabs **75**
Blue Licks, Ky.: Battle (1782) 816, 830, 840, painting **831;** Mineral springs: Mastodon fossils **830,** settlers' saltworks 830, 835
Bluefields, Nicaragua 805; House **805**
Boats: Long-liner **459;** *see also* Dugouts; Paddle steamers
Boca Lacantún, Mexico: Arrest of NGS party 531
Boeing Military Airplane Company 375, 378-379
Bogong moths: Snowy Mountains 252
Bogoria, Lake, Kenya: Hot springs **560-561**
Bogotá, Colombia: Humboldt's visit 343
Boilers: *Titanic* 705, 707, **707**
Boise, Charles 599
Bolívar, Simón 71, 346
Bonicatti, Patricia 756
Bonilla, Daniel 796
Bonpland, Aimé: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351
Boone, Dan **841**
Boone, Daniel 695; ***Daniel Boone, First Hero of the Frontier.*** By Elizabeth A. Moize. Dec., 812-841
Adopted by Indians 816, 835, 836
Autobiography 819, 835; Excerpts 824, 835; Map from **827**
Birth 814, 817; Site of log-cabin birthplace **818**
Carvings on trees 819, 820, **821**
Childhood 814
Death 812, 817, 836, 841; Burial and reburial 839, 841
Explorations and travels 814, 816-817, 820, 824; Maps 816-817; Western range 816, 841
Kentucky, settlement of: Footpath cleared 816, 826, 827, preserved portion **826-827;** Lands surveyed 816, 833
Land ownership 812, 833, 836, 840, 841; Map showing conflicting claims **832**
Maps showing travels 816-817
Marriage 817, 819; *see also* Boone, Rebecca
Military service: Fort Duquesne expedition (1755) 815, 817, 819; Revolutionary War 812, 816, 838, Battle of Blue Licks (1782) 816, 830, **831,** 840
Missouri 816, 834, 836, 840, 841
Personal belongings: Authenticated: Hunting bag **821;** Unauthenticated: Powder horns **815, 837,** rifles **815**
Physical appearance 819
Portrait **813**
Signature **812, 834**
Surveyor and land agent 816, 833, 840
Syndic 834, 840; Official document **834**
Tomb **838,** 841
Boone, Israel: Death 830, 840, painting **831**
Boone, James: Death 824; Painting of grave site **825**
Boone, Jemima 836, 838; Kidnapped 830, 835
Boone, Nathan 819, 822; Stone house **836,** 841, bedroom **836-837**
Boone, Rebecca 814, 817, 819, 836, 838; Children 819, 830; Death 836, 841
Boone, Squire 814; Quoted 819
Boone, Squire, Jr. 824
Boone County State Bank, Lebanon, Ind. **841**
Boone Gap, near Berea, Ky. 827
Boone Trace (footpath), U. S. 816, 826; Preserved portion **826-827**
Boone's Station (now Athens), Ky. 840
Boonesborough (former village), Ky. 830, 835; Beseiged by Indians (1778) 829, 836-837, painting **828-829;** Founded 816, 830
Booth, Robert: ***The Two Samoas, Still Coming of Age.*** Oct., 452-473
Borgia family: Popes 735-736
Borneo (island), Indonesia: Large flower 137
Bosporus (strait), Turkey: *Argo* expedition **406-407,** 415-416; *see also* Symplegades
Bossert, Wayne **363**
Boswell, Victor R., Jr., photographer: ***Treasures of the Vatican.*** Dec., 764-775
Boswellia (genus) **484;** Flowers **484;** *B. sacra* 482
Bougainville, Louis-Antoine de 457
Boule, Marcellin 614
Bounty, H.M.S.: ***Wreck of H.M.S. Pandora.*** By Luis Marden. Oct., 423-451

UMI

Bowler, Jim 269, **269**
Boyce, Dulcie **274**
Boyd, Ivan **86**
Brachiosaurus 146, **149-150**
Brain, C. K. "Bob" 582, 598, 599, 600, 607
Bramante, Donato 742, 761
Breadfruit **428,** 429
Break dancing: American Samoa **455,** 460
Breeding programs: Kansas cattle 377-378
Breslov Hasidim 28, 38
Breton, Jean-François 490
Breuil, Henri 618
Brewster, Mabel 642
Brideshead Revisited (Waugh): TV production 667
Bridge Hotel (restaurant), Echuca, Australia 264, 270; Room **264**
Brill, David L., photographer: **Homo Erectus *Unearthed*.** Nov., 624-629; ***The Search for Our Ancestors*.** Nov., 560-623
Brinndiago, Senegal 239
British Columbia (province), Canada: Fossil discovery 156; Trumpeter swans 550, 558 *see also* Lonesome Lake
British Isles *see* Great Britain
British Royal Navy: Ship construction (18th century) 450
Broadlands (house), Hampshire, England 663, 683
Brocket deer **528,** 536
Brodie stove **441**
Broken Hill, Zambia: Fossil 612
Bronze Age: Animal cults 419, 420; Navigation 410; Sites 418, 419
Brookover Feed Yards, near Garden City, Kans. 364-365
Broom, Robert 578, 596; Fossil skull found by **569**
Broome, Australia: Cultured-pearl industry 206, 211, 212
Brouillet, Jean-Claude **197,** 212-213
Brown, Charlie **104**
Brown, Francis **588,** 627
Brown, John 380, 381
Brown, Lancelot "Capability" 685
Brumbies: Snowy Mountains 256, 257
Brushy Fork, Ky.: Cabin of Daniel Boone **833,** 840
Bryan, Rebecca *see* Boone, Rebecca
Buch, Leopold von 330
Buckingham, Duke and Duchess of 682
Buckinghamshire, England: Mansions 663, 682, 692
Buddha likenesses 286, 294-295; Pearl 201, **216**
Buenos Aires, Argentina: Founder 70
Buffalo, American *see* Bison
Bukut (Diola initiation ritual) 239, 240, **240, 241,** 243, 246
Bull cult (Bronze Age) 419
Bulls, fire-breathing (legendary) 420; Drawing **419**
Burghley, William Cecil, first Baron 677, 682
Burghley House, Lincolnshire, England 663; Heaven Room **677;** Kitchen **676-677**
Burgos, Spain: Archives **49**
Burials: Mungo people 269, **269,** 275; Muslims 400, **400, 401;** Neandertals **612,** 614-615, 629; *see also* Cemeteries; Tombs
Burin (stone tool) **617;** Use 620
Burma: Pearls 206, 211, 212
Burton, Richard 222
Buses, natural-gas fueled **312-313**
Bushrangers: Murray Valley 261
Bushveld complex (ore deposit), South Africa 177
Busiljá River, Mexico: Map 524; Waterfall 540, **542**
Butchering: Packinghouse 370; Stone Age sites **610,** 611, 612
Byron, George Gordon: Quoted 819

C

C & R Supply, Lebanon, Kans. **368-369**
Cabrera, Victoria **623**
Caesar, Julius: Invasion of Britain 210
Caesarea, Israel: Golf course 38
Caiman: Jaguar attack **350-351**
Calabozo, Venezuela 337
Calamites: Fossil **185**
Calcium carbonate: Pearl-based tablets **207;** Pearl nacre **205,** 206
Caldas, Francisco José de 344
Calder, Alexander: Mobile **372**
Calderas 177, 179, 181
Caledonian mountains, Europe: Formation 170
Calf: Stress test **381**
California: Geology 154, 155-156, 164, 166, 179, map of terranes **154-155;** Gold rush (1849) 71
Californian (ship) 704; Diagrams of proximity to *Titanic* **704, 705**
Caliph: Touba, Senegal **249**
Callao, Peru 345
Callaway, Betsey and Fanny 830, 835
Calleros, Gustavo 529
Calvi, Roberto 752
Cambrian period 167, 169, 170
Camden, Tenn.: Pearl industry 193, 218
Camels **478-479,** 479, 492, 493, **498-499, 512;** Carrying ability 403; *see also* Caravans, camel
Cameras: Underwater exploration 699, 705, 706, 717
Camp David treaty 9, 11
Campbell, Ian 172
Campeche (state), Mexico: Guatemalan refugees 531
Canada: *Canada; Canada's Vacationlands*. Nov. supplement; ***Kluane: A Century of Exploration*.** By Barry C. Bishop. Nov., 654-657; ***Kluane: Canada's Icy Wilderness Park*.** By Douglas Lee. Nov., 630-653; *see also* British Columbia; Labrador
Canadian Conservation Institute: Red Bay artifact preservation 54
Canadian Shield (craton), North America 173
Canadian Wildlife Service: Feeding of trumpeter swans 558
Çanakkale, Turkey: *Argo* expedition 415
Canary Islands: Humboldt's visit 335
Canneh (ancient city) *see* Qana
Cannon: *Pandora* **430, 431, 432, 438, 439**
Canoes *see* Dugouts
Cape Meares, Oreg.: Paleomagnetism research **158-159**
Caracas, Venezuela: Humboldt's visit 336
Caravans: Ethiopia **386-387, 402-403;** Routes replaced by railway 505; *see also* Frankincense trail
Caravans, camel **402-403;** Cargo 493, 501, frankincense 479, 488, 492, 493, 512; Depiction **512**
Carboniferous period 169, 170
Cardinals, Roman Catholic 729, 736, 743, **750-751,** 754
Caribbean region: ***Humboldt's Way*.** By Loren McIntyre. Sept., 318-351; *see also* Nicaragua
Caripe, Venezuela: Oilbirds 336
Carlin, John 354
Carlyle, Thomas: Quoted 599
Carmel, Mount, Israel: Druze settlements 38; Neandertal grave **612**
Carpathia (ship) 704; Diagrams of proximity to *Titanic* **704, 705;** *Titanic* lifeboat alongside **719**
Carpenter, Jon **443,** 445, 446, 447
Cartagena, Colombia 340
Cartier (jeweller) 202-203; Jewelry designed by **223**
Cartier, Jacques 41, 43; Description of Labrador 55
Carvings: Alabaster **495, 512;** Maya **520, 521,** 532, 536, **537, 541**
Casamance region, Senegal: Diolas 239, 240, 246, initiation ritual 239, 240, **240, 241,** 243, 246; Riots 246
Casaroli, Agostino Cardinal 743, **754**
Cascade Range, U. S.: Seismic risk graph **152;** Volcanoes 166, 179 *see also* St. Helens, Mount
Casiquiare (river), Venezuela 337, 338
Castel Gandolfo, Italy: Papal retreat 763, garden **762-763**
Castel Sant'Angelo, Rome, Italy 744
Casting methods: Underwater archaeology 66, **66,** 67, **67**
Castle Howard, Yorkshire, England 663, **664,** 665; As Brideshead 667; Interior rooms **666-667;** Mausoleum 667, **667;** Statuary 665, **666**

Castles: ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694
Cataracts (eye disorders): Fish 89, **89**
Catherine, Sister **737**
Cattle and cattle raising: Agricultural research 377-378, **381;** Kansas 361, 364-365, **366,** 370, 377-378, **381;** Murray basin 254, 256, 257, 261; Oman **486-487;** Usumacinta basin 519, 528, 529
Cattle carcasses: Senegal **242-243**
Cattle feed: Peanut pellets **231**
Caucasus Mountains, U.S.S.R.: Gold-collecting technique **418,** 419; Prometheus 417, 420; Ram cult 420
Cave art: Cro-Magnon man 618, **619**
Cavendish (English family) 671
Caves: Arago: Excavation **608;** Swartkrans: Excavation 598, **606,** 607; Yugoslavia **613;** *see also* Ice caves
Cawood Castle, Yorkshire, England 663; Feast (1465) 674
Cecil (English family) 682-683
Cecil, Robert 682
Cecil, William (first Baron Burghley) 677, 682
Celestino Mutis, José 343
Cells: Fossils 182, **182**
Cemeteries: Oldest known 612; Saddle Island **56-57;** Tehran 1, 120, **120, 121;** Warren County **838-839**
Censers **482,** 505; Electric 505
Central America: Arms buildup graph **787;** U. S. aid graph **787;** ***The Usumacinta River: Troubles on a Wild Frontier.*** By S. Jeffrey K. Wilkerson. Oct., 514-543; *see also* Nicaragua
Central Plains, The Making of America map series. Sept. supplement
Central Terrane: Map **154-155**
Cerullo, Mariano 754
Cerveteri, Italy: Tombs 771
Cessna (aircraft manufacturer) 375, 378, 379
Chaffey, George and W. B. 273, 274
Chalice, gem-encrusted **765**
Chambers, Grace 642, 644
Chambers, Ron 639, 642, 644
Chamorro, Carlos 795, 796
Chamorro, Jaime 794, 795
Chamorro, Pedro Joaquín 793
Chancalá, Mexico: Lumber mill 529
Channing, Steven 836
Charles V (Holy Roman emperor): Sack of Rome 741, 744, 775
Charles IV, King (Spain): Humboldt's audience with 334-335
Charnay, Désiré 536
Chatsworth (house), Derbyshire, England 663; Drawings 692
Chefs: Sichuan restaurants 308, **310,** training 311
Chen Renkun **301**
Chen Zhigang 308, 311
Chengdu, China 280, **280-281,** 282, **284,** 294; Coffeehouse 291; Juvenile detention center **300;** Park **294;** Protestant church 294; Social dancing **282-283;** Tea shops **295,** storyteller **298**
Chengdu-Guanxian road, China: Construction workers **304-305**
Cherokee Indians: Sacred island 824; Sale of lands 816, 824
Chert: Fossil content 156, 159
Chesapeake Bay, U. S.: Crabbing 95-97, catch **75;** *see also* Hampton Roads
Chiapas (state), Mexico 527, 528, 531
Chicago, U.S.S.: Launch **106-107**
Chickens: Hasidic customs 30, **30, 31;** Nicaragua **783**
Chimborazo (volcano), Ecuador: Humboldt's travels 342, 344
Chimpanzees: Compared to humans 585, 588; Quadrupedalism 593, diagram **593**
China: Fossils 608-609, 612; Pearl industry 201, 214, 216, **216**
China, People's Republic of: Cultured-pearl industry 214, **214-215,** 221-222; ***Sichuan: Where China Changes Course.*** By Ross Terrill. Sept., 280-317
Chinandega, Nicaragua 778; Sugar refinery 804-805
Chixoy River, Guatemala-Mexico *see* Salinas
Chloroplasts 151
Chol Indians 528
Cholula, Mexico: Church **327;** Pyramid **327**
Chongqing, China 295, 304-305, 308, 311; Housing project **296-297;** Restaurants 308, **310-311,** 311; Welder **297**
Chongqing Advertising Company: Poster **292-293**
Chongqing University, Chongqing, China: Demonstration 315
"Christ Helios" (mosaic) 741
Christian, Fletcher 426, 429, 449
Christian Broadcasting Network, Inc.: Founder **102,** 107
Christianity: Pilgrims **8,** 30; Schism (6th century) 388; *see also* Roman Catholicism
Christiansen, Bob 177
Chrysler Museum, Norfolk, Va. 105
Churchill, John (first Duke of Marlborough) 671, 678
Cigar making: Nicaragua 794, **794**
Cimarron National Grassland, Kans.: Santa Fe Trail 383
Civil war: Ethiopia 384, 386-387, 388-389, 392, 396-397, 399, 404, attacks on civilians 389, **392-393,** 394, 399, deaths 388
Civil War, U. S.: Kansas 355, 360, 380, 381
Clark, Desmond 588
Clark, Nic **443**
Clark, Thomas D. 819, 822
Clashing Rocks *see* Symplegades
Clement VII, Pope 741, 744, 775
Cleopatra: Pearl consumed by 201, 209
Clottes, Jean 618
Coal: Formation 146, 169
Coal exports: United States 74, 89
Coco, Río, Honduras-Nicaragua 798, 801
Coconut industry: Western Samoa 454, 466, 467-468, coconut palm pollination **471**
Codfish bones: Found in sunken galleon 64, 65
Codfishing: Grand Banks 42
Coffee: Origin 496
Coffee growing: Nicaragua 785, 787, 790, 797, harvest **797**
Cohanim 38
Coke, Thomas 678, 679, 689
Coke, Thomas William 679, 682, 691
Coke, Viscount and Viscountess **688,** 690-691
Colalucci, Gianluigi 757
Colby, Kans.: Groundwater test **363**
Colchis (ancient country): Golden Fleece legend 408, 409, 419, 420
Coleman, Peter Tali 460
Coleman, Ron 429, 438, **438,** 441, 450
Coleman, Sheldon, with lantern **372**
College of Cardinals 736, **750-751**
Collins, Bob 824, 828
Colombia: Gold artifacts **340-341;** Humboldt's travels 338, 341, 343; Mud volcanoes **338, 339;** Shipwrecks, protection of 421
Colonel's Lady II (boat) 95, 96, 97
Colorado: Ancient caldera 177
Colorado River, Mexico-U. S.: Mexico water supply 278
Columbus, Christopher: Basque crew 70
Coly, Jean-Bernard 239, 243
Coming of Age in Samoa (Mead) 456
Compass, 16th-century **63,** 65
Compston, Bill 171, 172, **173**
Computer applications: Cattle feed 365; ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; Shipwreck excavation 450
Computer-imaging technology: Israel **3, 13**
Conant, Bruce 550
Conateh, O. B. 239
Coney, Peter 156
Confederation of Senegambia 225, 226, 238
Confessio (martyrs' tomb), St. Peter's Basilica, Vatican City **731**
Conservation: ***Saving the World's Largest Flower.*** By Willem Meijer. July, 136-140; *see also* Wildlife refuges
Constantine I, Emperor (Roman Empire): Basilica construction 730, 736, 737, 739, 741, 742, 745
Continental drift *see* Plate tectonics

Contras (Nicaraguan counterrevolutionaries): ***Nicaragua: Nation in Conflict.*** By Mike Edwards. Dec., 776-811
Cook, Andrew 270, 273
Coopers **52;** Tools used 53
The Coorong (lagoon), Australia 252, 278
Copper River Delta, Alaska: Trumpeter swans 548, nest **553**
Coppers, Yves 592
Core sampling: Seward Glacier **648**
Corn cultivation: Attempted in cleared rain forest 528, 536, 543, crop awaiting shipment **526**
Cornish, Jean **274**
Coronado, Francisco Vásquez de: Exploration of Kansas 380
Cortés, Hernán 540, 543
Cosa, Juan de la 70
COSEP (Superior Council of Private Enterprise) 796, 804
Cosmos (Humboldt) 323, 328, 349-350; Index 323, 328
Costin, Mike 421
Cotitta, R. G. 375
Cotton growing: Nicaragua 778, 787
Cottonwood Trail, Kluane National Park Reserve, Yukon Territory, Canada 639, 642, 644
Coulson, Cotton, photographer: ***Home to Kansas.*** Sept., 352-383
Coulson, Helen 270
Coyne, Michael: ***Iran Under the Ayatollah.*** July, 108-135
Crabbing: Chesapeake Bay: Catch **75,** economic conditions 95, 96-97, interstate conflicts 96
Crabtree, August 101-102
Crane, Don 362-363
Cranes, cargo: *Titanic* **699,** foundation **716, 717,** tower **717**
Cratons 173, 176
Creation, Biblical story of 559
Cremation: Australian Aboriginals 269, 275
Cricket players **672-673**
Crinoids, stalked 186; Fossils **186**
Croatian communities: Kansas City, Kans. 370, 375
Cro-Magnon, France: Fossil skull from **573**
Cro-Magnon man: ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623
Cropp, Ben 437, 438
Cross, pilgrim carrying **8**
Crow's nest: *Titanic* **702, 703**
Cruz, Marco 344
Cuba: Humboldt's travels 320, 338, 345; Nicaragua, aid to 782, 787, 804-805; Soviet Union, aid from 804
Cuevas, Luis 536
Cultural Revolution (China) 284, 287, 290, 294
Cultured-pearl industry: ***The Pearl.*** By Fred Ward. Aug., 193-223
  Australia 198, 206, 211-212; Australian pearls **193**
China, People's Republic of **214-215,** 221-222
Colors produced **196, 197, 203,** 206, 207, 210-211, 212, 213; Color enhancement 202, **202,** 203, 204, 207, 210, 222
Culturing process: Nucleation 193, 195, **200, 201,** 202, 203, 206, 210-211, 216, 217, **219,** 221, shells used 193, 194, **219;** Production time 196, 201, 203, 205, 206, 222; Success rates 195
French Polynesia **194-197,** 211, 212, 213
Freshwater pearls 201, **201,** 207, 214, **215, 216,** 217, **218-219, 220,** 221, 222
History 195, 201-202, 203, 209, 213, 216; First enterprise 205; First patent 202, 213
Japan 194, **198-199, 200, 204-205,** 206, 219; Colors produced **202, 203,** 207, 210, 217; Control 193, 198, 211-212, 213, 217; Export figures 217, 221; Standards 203-206, 222; Water pollution, effects of 217, 222; *see also* Freshwater pearls; History, *above*
Oyster piracy 212, 213
Pharmaceutical products **207**
Prices of pearls 193, 200-201, 206, 212; Price-setting 217
Sizes produced 196, 201, 206, 212, 213, 214
Standards: Decline in 204, 206, 212, 222; Nacre thickness 203, 204, **205,** 206, 207, 213, 221
United States 193, 194, 218, **218-219,** 219
Cumaná, Venezuela 336
Cumberland Gap, Tenn. 815, 816, 820, 823, 826
Cumberland Gap National Historical Park, Ky.-Tenn.: Footpath **826-827**
Cunningham, Henry Ward 718
Curassow, black: Sketch **347**
Curia Romana (Vatican bureaucracy) 743, 744; Overseer 743, **754**
Curry, John Steuart: Mural 380
Curtsinger, Bill, photographer: ***16th-Century Basque Whalers in America.*** July, 40-71
Cut-glass window: *Titanic* **709**
Cygnets: Tundra swan **549;** *see also* Trumpeter swans, *outlined*

D

DNA: Molecular evolution clock 585
Dai Xueming 286
Daiko Pearl Company 217
Dairy industry: Victoria, Australia 266
Dakar, Senegal 226, **228-229,** 229, 249, 250; Taxidermist shop **235;** Women **225,** 246, 249
Daley, Tom 66
Dali, China: Fossil skull 612
Dall sheep 634, **642-643**
Dalton, Reginald 234, 238
Dams: Gambia River (planned) 227, 243; North Yemen 496, ancient 495, 499; Usumacinta basin (planned) 522, 524, 525, 539, 540, 543
Dancers and dancing: Ballroom dancing **282-283,** 311-312; Break dancing **455,** 460; Diola initiation **240,** 243; Israeli troupe **39**
Daniel Boone, First Hero of the Frontier. By Elizabeth A. Moize. Dec., 812-841
Darling River, Australia 254, 256, 277
Dart, Raymond 578, **579,** 600
Darwin, Charles: Quoted 584
Dating methods: Biochronology 589, 590, 596, 607; Dendrochronology 66; Ion microprobe 171-172, **173;** Paleomagnetic dating 596; Radiometric dating 585, 588, 589, 590, 599, 605
Davis, Andy 278
Day, Michael 592
Dead Sea: Hydroelectrical works **24-25**
The Deaf: Communications aid 379
Deakin, Alfred 273
Dean, Bertram **718**
Death Valley, Calif.: Geology 178
DeBeers Consolidated Mines, Ltd.: Diamond mine 173, 176
Deck chair: *Titanic* relic **718**
Decompression sickness 442
Deer *see* Brocket deer
Delaval family 692
Delimitros, Vasilis 408
de Lumley, Henry **608,** 610
de Lumley, Marie-Antoinette 610
Democratic Yemen *see* South Yemen
Dendrochronology: Shipwreck dating 66
Deng Xiaoping 280, 284, 287, 294, 308, 313
Derby, Earl of 692
Derby, Lady 692
Derbyshire, England *see* Chatsworth; Haddon Hall; Hardwick Hall; Kedleston Hall
Desert Police: Jordan 511
Desertification: Africa 388, 389
Devonshire, Dowager Duchess of 661; Portrait **661**
Devonshire, dukes and earls of 671
DeVore Ranch, near Cassoday, Kans. **366**
Dhofar (region), Oman 482, 486, **486-487;** Cattle raising **486-487;** Frankincense 484, 485, 486, harvesting **484;** Revolt 497
Diamonds: Age 173, 176; Formation 176; Jewelry and ornaments **213, 223, 764, 765;** Mine 173, 176
Diaw, Aita 226
Dinosaurs 146, 186; Eggs and hatchling **187**
Diola (people) 239, 240, 246; Initiation 239, 240, **240, 241,** 243, 246

Diop, Mahmadou 229-230
Diouf, Abdou 238, **250**
The Discovery, Settlement and present State of Kentucke (Filson) 819
Discovery in Labrador: A 16th-Century Basque Whaling Port and Its Sunken Fleet. July, 40-49
Divers and diving ***July cover***, 421 *see also* Archaeology, underwater
Dizengoff street, Tel Aviv, Israel 10
Dizin, Mount, Iran: Ski resort **132**, 133
Dobbs, Peter 409
Docking bridge: *Titanic* **716**, 717
Doddington Hall, Lincolnshire, England 663, 692, 694
Dodge City, Kans. 363-364
Dolezal, Susan **381**
Dome of the Rock (mosque), Jerusalem **4**
Domm, Steve 437, 438
Don Juan (Byron): Excerpt 819
Doonerak (peak), Alaska 166-167
Dora Dora Flats, Australia **258-259**
Dorset, John Frederick Sackville, third Duke of 674
Douglas MacArthur Memorial, Norfolk, Va. 105
"dragon bones" 608-609
Drip irrigation: Israel 9, **19**
Droughts: Africa, sub-Saharan 388, 389; Australia 254, 262, 277, 278; Senegambia 226, 227, 243, 246, cattle killed by **242-243**
Druzes (people): Israel 31, 38
Dubois, Eugene 608
Dubuque, Iowa: Humboldt centenary celebration 350
Duck-billed dinosaur 186; Fossil casts **187**
Dugouts **331, 346-347, 526, 802-803**; Humboldt's travels **320**, 337, 338
Dybdahl, Rand 212
Dye designs: Hand of Yemeni woman ***Oct. cover***
"The Dying Gaul" (statue) **692, 693**

E

Early man *see* Man, prehistoric
Earth: ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; *The Shaping of a Continent; Earth's Dynamic Crust*. Aug. supplement
Earthquake Trail, Point Reyes National Seashore, Calif. 164, 166
Earthquakes: Managua, Nicaragua (1972) 780, 789, damage 780, **788, 789**, deaths 780, 789; ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; *The Shaping of a Continent; Earth's Dynamic Crust*. Aug. supplement
Eastern Virginia Medical Authority, Norfolk, Va. 83-84
Eastern Virginia Medical School, Norfolk, Va.: Fertility clinic 82, **100-101**
Ebrahim, Halima **394-395**; Mother **395**
Echaniz, Joanes de 47; Artist's depiction **47**
Echuca, Australia 264, 267, 270, 273; Hotel room **264**; Paddle steamers **264-265**, 270
Ecology: Pioneering work 324, 326
Ecuador: Rebellion 346; Volcanoes 324-325, 326, 342, 343, 344, Humboldt's diagram **324-325**
Eddington, Arthur: Quoted 590
Edwards, Edward 424, 426, 429, 435, 446, 447, 450; *Bounty* mutineers, treatment of 426-427, 435, 437; Court-martial 450; *Pandora*, sinking of 424, 435, 439, 447
Edwards, Mike: ***Nicaragua: Nation in Conflict.*** Dec., 776-811
Edwards, Ralph 558
Eels, electric 337
Egan, John, photographer: ***Jason's Voyage: In Search of the Golden Fleece.*** Sept., 406-420
Eggs: Dinosaur eggs, fossilized **187**; Trumpeter-swan eggs 557, hatching 548, **555**, 557
Egrets **320-321**
Egypt: Fossils **562, 563**, 580; Loss of Gaza Strip 11, 21; Recognition of Israel 21; Recovery of Sinai Peninsula 9, 11; Warfare with Israel 35
Egypt, ancient: Trade 483
Eiseley, Loren 190
El Arbolito, Guatemala 532; Abandoned schoolroom **535**
Elat, Israel 8-9, **16-17**
Elburz Mountains, Iran **128**
Elcano, Juan Sebastián 70
El Chichón (volcano), Mexico 166, 527
El Dorado (myth) 337, 341, 343
Eleazar ben Yair 22
Electricity *see* Hydroelectricity
Elephant, butchering of **611**
Elizabeth I, Queen (England and Ireland) 671, 677; Portrait **681**
Elizabeth River, Va. **72-73**, 74, **88-89**, 89
El Juyo cave, Spain: Cro-Magnon diet evidence **622**, 623
Ellis, William S.: ***Hampton Roads, Where the Rivers End.*** July, 72-107
Elron Electronic Industries Ltd. 20
Elscint, Ltd.: Computerized tomograph **13**
Elveden Hall, Suffolk, England 663, 674
Elvetham Hall, Hampshire, England 663, 671
Embroidery: South Yemen **493**
Emei (mountain), China 290
Emerson, Ralph Waldo: Quoted 623
Empty Quarter (desert), Arabian Peninsula 493
Endangered and threatened species: Northern right whale 67
Endeavour Strait, Australia 435
En Gev (kibbutz), Israel 17, 30
England: Geologic history 169-170; ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694
The English Gentleman's House (Kerr) 682
Enlène cave, France: Tablet **619**
Epipremnum (vine): Fruit, fossilized **562**
Eritrea (province), Ethiopia: ***Eritrea: Region in Rebellion.*** By Anthony Suau. Sept., 384-405
Annexation 388
Capital 388
Desertification 388, 389
Famine: Deaths 388, 391, 400; Relief efforts 388, **390-391**, 400, **402-403**
History 388
Map 389
Nomads and semi-nomads 388, **394-395**
Religious groups 388
Underground city *see* Orotta
War for independence 384, 386-387, 388-389, 392, 396-397, 399, 404 *see also* Eritrean People's Liberation Front
Eritrean People's Liberation Front: Education 404, classroom **404**; Fighters: Diet 384, 387, medical care 389, **392**, 394, number of 388; Supplies 384, 386, 389, caravans **386-387**, 389
Eritrean Relief Association 400; Caravan **402-403**
Esfahan, Iran: Market **133**
Esperanto (language): Vatican Radio broadcasts 755, 756
Estates *see* Stately homes
Estelí, Nicaragua 779; Fighting (1979) 780; Teacher training 784
Ethiopia: ***Eritrea: Region in Rebellion.*** By Anthony Suau. Sept., 384-405; Hominid fossils 588-589, **595** *see also* "Lucy"; Islam 748
Ethiopian College, Vatican City 743, 748
Ethiopian Jews 5, **21**
Ethiopian Orthodox Christians 388; Priest **405**
Ethnology *see* Aboriginals, Australian
Eucalyptuses: Mallees 273; River red gums 262, **262**, 267, 270
Eukaryotes 151, 182
Europe: Nicaragua, aid to 780, 791, 804; *see also* Great Britain; Vatican City; *and* Basques
Euskaldunak *see* Basques
Evans, Tip 56
Evolution 559; ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623; *see also* Paleoanthropology
Excavating a 400-year-old Basque Galleon. By Robert Grenier. July, 58-68

UMI

Explorers, discoverers, and navigators: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351; ***Jason's Voyage: In Search of the Golden Fleece.*** By Tim Severin. Sept., 406-420; ***16th-Century Basque Whalers in America.*** July, 40-71; *see also* Boone, Daniel

F

FDN *see* Nicaraguan Democratic Force
FSLN *see* Sandinista National Liberation Front
Faga'alu, American Samoa: Family at home **456-457**
Fagafau, Western Samoa: Lover's leap 472
Fagatogo, American Samoa: Break dancers **455**
Fahd ibn Abdul-Aziz, King (Saudi Arabia) 505, **509**
Faiyum Depression, Egypt: Fossils **562, 563,** 580
Faizieh Theological School, Qom, Iran **134,** 135
Falasha (people) 5, **21**
Faleasi'u, Western Samoa: Tattooing session 464, **465**
Fallows, James: ***Vatican City.*** Dec., 723-761
Family planning: China 295, 299, 306
"familygram," filming of **96-97**
Famine: ***Eritrea: Region in Rebellion.*** By Anthony Suau. Sept., 384-405
Famous Original Blood Brothers of Samoa **455**
Fansher, Stan 364-365
FAR *see* Fuerzas Armadas Rebeldes
Farajzadeh, Mohammed Reza **112,** 113, **113-116,** 117, **117**
Farallon Islands, Calif.: Northward movement 154
Farallon plate 166; Subduction 178, 181, volcanic activity 166, 177, 180
Farley, Bruce 211
Farm foreclosures: Kansas 354, 356, protest rally 354, **362,**
Farming *see* Agriculture
Fathi, Saleh Edin **119**
Faults and faulting: ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement
Faunal chronology (dating method) 589, 590, 596, 607
Feedlots: Kansas 364-365, 380
Felbrigg Hall, Norfolk, England 663, 689
Femme Osage district, Mo. 817, 840
Ferdinand V, King (Castile and Aragon) 735
Fernández, Renato 540
Fertility clinic: Norfolk, Va. 82-83, **100-101**
Fibula (clasp), gold **770-771**
Field art: Kansas **370-371**
Filson, John 819, 827
Finley, John 815, 817, 819, 822, 823
Finsch Mine, South Africa 173, 176
Fire: Used by early man 576, 609
Fireweed 548, **552-553,** 646
Firmin, Mansis 246
First Infantry Division, U.S. Army 383
First Temple, Jerusalem 26
Fisher, Jill 206
Fisher, Mike 639, 642, **644, 645**
Fishermen: Castle Howard, Yorkshire, England **664-665;** ***16th-Century Basque Whalers in America.*** July, 40-71
Fishes: Evolution 146, **149;** Fossils **185, 188, 189, 190-191;** *see also* Kokanee; Murray cod; St. Peter's fish
Fishing industry: American Samoa: Boat **459,** canneries 459, workers **461;** China 222, 308; Grand Banks 42; Virginia **75,** 95-97; *see also* Fishermen
Fitzwilliam, Earl 686
Flags: Defiled in Iran 1, **108-109**
Flavius Silva 22
Fleet, Fred 702
Flies: Pollination of *Rafflesia arnoldii* 137, 139, 140, **140**
Flint Hills, Kans.-Okla. 353, 356; Farmers 354, 356, 377
Flintlock rifles **814-815**
Floods: Australia 254, 261, 267, 276
Flower growers: Sichuan 288, **291**
Flowers: Pressed specimens **323;** ***Saving the World's Largest Flower.*** By Willem Meijer. July, 136-140
Folk art: Croatian painter 370, 375
Folk medicine: Frankincense 484, 486; South Yemen 486, 487
Football games: American Samoa **462-463;** Kansas **358-359**
Forster, George 326
Fort Boonesborough State Park, Ky. 830
Fort Duquesne: British expedition (1755) 815, 817, 819
Fort Leavenworth, Kans. 383
Fort Riley, Kans. 383
Fortune 500 companies: Kansas City metropolitan area 375
Fossils: ***Fossils: Annals of Life Written in Rock.*** Photos by James L. Amos. Text by David Jeffery. Aug., 182-191; **Homo Erectus** ***Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629; Kluane National Park Reserve **638,** 647; Marine life 156, **158,** 167, 169, 170; Mastodon **830;** Oldest known 171; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623; Taung skull hologram ***Nov. cover;*** Terrane-movement evidence 156, **158,** 167, 169, 170
Foundation of Specialized Surgery, Norfolk, Va. 84-85
Fountain, martyrs': Iran **111**
France: Basques 71; Cro-Magnon fossil skull **573,** 617-618; Neandertals 612, 614, 615, fossil skull **572-573,** living group **615;** New World presence 812, 815, 819
Francis Xavier, Saint 70
Franco, Francisco 71
Frankfort, Ky.: Boone's tomb **838**
Frankincense: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Forms 486
Gift of the Magi 483, 484
Harvesting method 482, **484**
Price, compared to myrrh 500
Region producing best 482, 484; Map locating 485
Symbolic meaning 483
Trade 477, 482, 483; Decline in 487, 509; Map locating routes 485; Peak 484, 487
Transportation methods: Camel caravans 479, 492, 493, 512; Ships 483
Trees producing 482, **484;** Conditions required 482, 486; Flowers **484**
Uses 482, 483, 488; Medicinal 484, 486; Religious 483, 487, 512
Frankincense trail: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Frayer, David 615
Freeman, Leslie G. 612, 623, **623**
Freeman, Pete 95, 96, 97
Freese, Lloyd 646
Freiberg Academy of Mines, Freiberg, Germany 326
Frémont, John C. 323
French Frigate Shoals (reefs), Hawaii: Extinct volcano 164
French Polynesia: Black-pearl industry **194-197,** 211, 212, 213
French West Africa *see* Senegal
Frescoes: Vatican City **732-733,** 739, 755, 756, 757, **760,** 761
Freshwater pearls: Culturing industry 201, **201,** 207, 214, **215,** 217, **218-219,** 221, 222, shapes produced 201, **201, 216, 220;** Hopewell Indians' use of 198, **221;** Naturals 194-195, **210, 218, 221**
Frickleton, Sandy 254, 256, 257, 261
Frontera Corozal, Mexico **530-531,** 532
Frontier, American: ***Daniel Boone, First Hero of the Frontier.*** By Elizabeth A. Moize. Dec., 812-841
Froude, Derek 171
Fruit industry: Australia 273, 274
Fryer, Patty 159
Fuerzas Armadas Rebeldes (FAR) 522, 532, 534
Fulani herdsman **242**
Fuller, Nelson 80
Fuller's (café), Phoebus, Va **80**
Funahara, Yasuhiko 204

G

Gaffen, Ella 37
Galerazamba, Colombia: Mud volcano **339**
Galil, Uzia 20
Galilee (region), Israel 2, 31, 37, 38
Galilee, Sea of, Israel 9, 17, 30
Gallatin, Albert 345, 346
Galleons, Basque: ***16th-Century Basque Whalers in America.*** July 40-71; Timber from ***July cover***
Galley (ancient ship): Replica *see* *Argo* (wooden ship)
Gallus, Aelius 496
The Gambia: ***Senegambia—A Now and Future Nation.*** By Michael and Aubine Kirtley. Aug., 224-251
  British influence 225, 226, 238
  Capital *see* Banjul
  Colonial history 226, 229, 238
  Economy 226, 227; Foreign aid 234
  Facts and figures 226
  Flag **226**
  Independence 226, 238
  Map 227
  Peanut industry 226, 227, **230**
  Smuggling trade 226, 239
  Tourism 234, 239
Gambia River and basin, Africa **230-231;** Dams planned 227, 243; Ferry crossings 239; Megalithic circles 234
Gantin, Bernardin Cardinal 743
Garay, Juan de 70
García Moll, Roberto 538, 541
Garden of Taste restaurant, Chongqing, China 308
Garnets: Diamond inclusions 173, 176
Gaza Strip, Israeli-occupied territory: Arab residents 8, 12, 15; Conflict over 11, 21; Refugees **36-37**
Gazit, Shlomo 10
Geddes, Mike 278
Gem (paddle-steamer restaurant) 275
Gemayel, Bashir: Murder 35
Gems: Vatican collections **764, 765;** *see also* Diamonds; Garnets; Pearls
General Motors assembly plant, Kansas City, Kans. 370
Genesis, Book of: Creation story 559
Genetic research: Agriculture 377-378
Geography: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351
Geography of Plants With a Physical Portrait of the Equatorial Regions (Humboldt) 326, 345; Illustration from **324-325**
Geologic time 167, 169
Geological Society of London 167, 170
Geology: ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement
Georgian S.S.R., U.S.S.R. *see* Abkhazian A.S.S.R.
Geothermal energy: Nicaragua 780, 787
Germaika, Ethiopia 403
Gibbs, Paul **263**
Gibbs, William Francis 80
Gibson, Alex **271**
Gill, Bikram 377
Gilling Castle, Yorkshire, England 663; Students **678-679**
Gimenez, Anne and John 102
Gingras, Marcel **68**
Giresun Island, Turkey 417
Girmay, Azmera **399**
Girouard, Mark: ***The Great Good Places: English Country Houses.*** Nov., 658-694
Glacial surges **636-637,** 639, 641, 646, **650-651**
Glaciers: Kluane National Park Reserve **630-631, 636-637, 640-641, 650-651;** Map of St. Elias ice fields 632-633
Glass, one-piece: Basque relic 54, **55**
Glenrowan, Australia: Bushranger battle (1879) 261
Gloucestershire, England: Berkeley Castle 663, 672
Glyphs, Maya 532, **541**
Goatherd Mountain, Yukon Territory, Canada 646, 653
Goethe, Johann Wolfgang von: Quoted 318
Golan Heights, Israel 11, 30-31
Gold: South Africa 174, 176-177, mines **175,** 176
Gold artifacts: Colombia **340-341;** Vatican collections **765, 770-771**
Gold collecting: Pegged sheepskins **418,** 419, 420
Gold jewelry **419, 510, 511**
Gold rushes: California 71, 782, 787; Murray basin 261, 267
Golden Fleece legend: ***Jason's Voyage: In Search of the Golden Fleece.*** By Tim Severin. Sept., 406-420
Golf course: Israel 38
González Echegaray, Joaquín 623, **623**
Good, T. C. 441, 442, 447, 450
Gore, Rick: ***Our Restless Planet Earth.*** Aug., 142-181
Gorée (island), Senegal 236, **237;** Street vendor **237**
Gorilla **238**
Goulburn (river and valley), Australia 252, 262, 266
Graham and Rollins, Inc. **75**
Grain elevators: Kansas 363, 370, **382-383**
Gran, Milford 370
Granada, Nicaragua 782, 787
Grand Banks: Codfishing 42
Gray, Tom 585
Great Barrier Reef, Australia: ***Wreck of H.M.S. Pandora.*** By Luis Marden. Oct., 423-451
Great Basin, U. S. *see* Basin and Range region
Great Britain: Geologic history 169-170; ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694; *see also* Wales
Great Cataracts of the Orinoco, Venezuela **331,** 337, 338
Great Dividing Range, Australia 252, 274
The Great Good Places: English Country Houses. By Mark Girouard. Nov., 658-694
Great Magal (pilgrimage): Touba, Senegal 229, 230-231, 234, 249
Great Valley (terrane): Map **155**
Greater London, England *see* Syon House
Greek mythology *see* Golden Fleece legend
Greek vase **409**
Green City Mountain, China 291, 294
Green River formation (ancient lakebed), U. S. 189; Fossils **188-189, 190-191**
Green turtles **426-427,** 442, **802**
Greenan, Lambert 752
Greenland: Ancient rocks 171, 173, **173**
Gregorian calendar 775
Gregorian museums, Vatican City 771; Etruscan artifacts **770-771**
Gregorian University, Rome, Italy 749
Gregory XIII, Pope 775
Gregory XVI, Pope 771
Grenier, Robert 41, 45, 49, **58;** ***Excavating a 400-year-old Basque Galleon.*** July, 58-68
Grey, Aggie 464, 466
Grey, Trish 198, 212
Grine, Fred **597**
Grisnik, Marijana 370, 375
Grizzly bears 635, 639, 642, **642,** 644; Attack on hikers 639, 642, puncture wounds **644, 645**
Grosvenor, Gilbert H.: Quoted 657
Guadalajara, Mexico: Founders 70
Guangyuan, China 286
Guano: Peru 345, 348
Guarducci, Margherita 741
Guatavita, Lake, Colombia **341;** El Dorado legend 341, 343
Guatemala: ***The Usumacinta River: Troubles on a Wild Frontier.*** By S. Jeffrey K. Wilkerson. Oct., 514-543
Guatemalan Army: Guerrillas, measures against 532, 533, **533,** 534, **534-535;** Reform 534
Guatemalan refugees: Mexico 514, 524, 530-531, 535
Guayaquil, Ecuador 345
Guerrillas: Ethiopia 384, 388, 392; Guatemala 514, 522, **522-523,** 525, 531, 534, 535, 539, clashes with Guatemalan Army 532, 533, 534, weapons **522-523,** 534, **535;** Nicaragua *see* Contras
Guinness, Edward Cecil 674

Gum disease: Early man **612,** 615, 628
Gundagai, Australia: Inundation (1852) 261-262
Gunflint formation (fossil site), Canada: Fossils **182**
Guppy, Nicholas 529
Gurel, Arie 25
Gush Emunim movement: Israel 5, 24-25

H

H & R Block 372, 376
Hadar, Ethiopia: Fossils 564, **568-569,** 585, 591, 592, **595** *see also* "Lucy"; Volcanic ash 589, 591
Haddon Hall, Derbyshire, England 663; Chapel **694;** Great Hall **660**
Hadramawt (ancient kingdom) 476-477, 482; Capital 488, 495; Trade 477, 495, frankincense 487, 488, 495
Hadramis (people) 490, 491; Architecture **489, 490-491,** 492
Hadrian, Emperor (Roman Empire) 22; Likeness **22**
Haifa, Israel 11; Hospital **7,** 38
Haile Selassie, Emperor (Ethiopia): Deposed 388
Haimi, Fadel 496
Haines Junction, Yukon Territory, Canada 638, 639, 646, 654
Hajj (Islamic pilgrimage) 509
Hakmen, Rahme and Ramadan **272**
Halberds **738, 739**
Haley, Alex 227, 234, 236, **236**
Half pearls 201, **216**
Halifax, Nova Scotia: Museum **718**
Hamada, Chojiro 217
Hamaguchi, Hirao 205-206
Hamersley Iron works, Australia **174-175**
Hamilton, George 424, **436;** Surgical instruments **436,** 446
Hampshire, England: Mansions 663, 671, 683
Hampton, Va.: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
Hampton Roads (channel), Va. 73, 74, 95
Hampton Roads (Metropolitan Statistical Area), Va.: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
  Agricultural products **90-91**
  Boatbuilding, traditional 102
  Colonization 87-89
  Fishing: Catch **75;** Economic conditions 95-97
  Map 76-77
  Medical research 82-85, **101**
  NASA facility 90-91
  Population 76, 103; Filipinos 87
  Revitalization 74, 82-83, 85, 87, 104-105
  Shipyards **72-73,** 74, 76, 79, 81, 82, **88-89, 106-107;** Asbestos-related diseases among workers 81-82, victims **93**
  U. S. Navy bases 74, 76, 79; Troop training **94;** Reserve fleet 107
  Watermen 95-97
Hampton Roads Bridge Tunnel, Va. 103
Hampton University, Hampton, Va. 91, 104; Band **104-105**
Hams: Aging **90-91**
Han (ethnic Chinese) 296; Prejudice 299
Han Dynasty: Tomb figure **298**
Han Gen Sheng **215,** 221-222
Hand, woman's: Dyed designs ***Oct. cover***
Hand axes: **610, 611**
Haram Mosque, Mecca, Saudi Arabia 503, 505, **508, 509**
Harborfest, Norfolk, Va. **82-83**
Hardware store: Kansas **368-369**
Hardwick Hall, Derbyshire, England 661, 662, 663, 664-665, 671; High Great Chamber **661**
Hargraves, Edward 261
Harness Driving Championships, Nyah, Australia **265**
Harris, John 627
Harrod, James 816, 830
Hart, Eva **718**
Hartman, Mary 796
Hasidim: Israel 28, **29, 30, 31,** 38
Hatfield House, Hertfordshire, England 663, 681, 682, 683; Portrait of Elizabeth I **681**
Hatshepsut, Queen (Egypt): Tomb 483
Hatten, Robert 81-82
Havana, Cuba: Humboldt's visit 338, 345
Hawaii: Geology 144, 153, 160, 163, 164, computer image **161,** volcanic eruptions **144-145,** 161
Hayward Fault, Calif 154; Computer-drawn map locating **155**
Hebrew (language): Israel 2, 11, 21, 28
Hebrew University, Jerusalem, Israel: Solar energy research **24**
Hedville, Kans.: Sign **366**
Heel (sternpost-keel junction): Basque galleon **40,** 68, **68**
Heidelberg, Germany: Fossil 610
Heinold, Orie **355**
Hellman, George "Dutch" **80**
Henderson, Graeme 442
Henderson, Richard 816, 824, 826, 830; Quoted 830
Henry VIII, King (England) 775; Petition **774-775**
Hercules 409, 412, 415, 418
Herd, Stan 370; Artwork **370-371**
Hernándes, Tomás 527
Herodotus: Quoted 483
Hertfordshire, England *see* Hatfield House
Herzog, Chaim 21
Hexian, China: Fossils 609
Heywood, Peter 437, 447; Sketch by **426**
Hijaz Mountains, Saudi Arabia **507**
Hijaz Railway, Jordan-Saudi Arabia-Syria 505, 506, **506-507,** 510
Hikers: Kluane National Park Reserve **634,** 638-639, **644, 645**
Hiser, David, photographer: ***The Usumacinta River: Troubles on a Wild Frontier.*** Oct., 514-543
Histadrut (Israeli trade union) 37
History, British: ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694
History, U. S.: *Central Plains,* The Making of America map series. Sept. supplement; *Ohio Valley,* The Making of America map series. Dec. supplement; *see also* Frontier, American
Hoffman, Paul 724-725
Hofheimer, Henry Clay, II 74, **78;** Porcelain collection **78-79**
Hogg, Paddy 273
Hogs: Virginia 91; *see also* Pigs
Hojjati, Hojjatoleslam Javad 130
Holcomb, Kans.: Beef packinghouse 365, 370
Holdsworth, Gerald **648**
Holkham Country Fair, Norfolk, England **690-691**
Holkham Hall, Norfolk, England 663, 678, 689, **690-691;** Marble Hall **688**
Hollis, Nick 409
Holloway, Ralph 600, 601
Hologram: Fossil skull ***Nov. cover***
Holy Door, St. Peter's Basilica, Vatican City 729; Diagram locating **730**
Holy Week celebrations: Nicaragua 779, 780, decorated statue **783;** Vatican **753**
Home to Kansas. By Cliff Tarpy. Sept., 352-383
Homes, underground: Nakfa, Ethiopia 397, **398, 399**
Hominids: **Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623
Homo Erectus *Unearthed.* By Richard Leakey and Alan Walker. Nov., 624-629
Honey production: Vatican City 747, 752
Hong Kong: Pearl imports 204, 222
Hook, Johnny 377
Hopewell Indians: Pearls 198, **221**
Hopwood, Henry 264, 267
Horner, John R. 186
Horse-and-driver team **265**
Horseback riders: Sichuan **316;** Snowy Mountains **255**
Horses: Murray basin ***Aug. cover,*** brumbies 256, 257; Sculpture **621**
Horton, Charles E. 84, 85
Horton, Ken 356
Hosick, Joe 639, 642, **645**
Hospitals: Haifa, Israel **7,** 38; Orotta, Ethiopia 389, **392**
Hostage crisis: Iran 125

Hot spots (geologic zones) 144, 161, 163, 164, 177; Computer images **160, 161;** Crustal plate movement **160-161,** 164, 177
Hot springs: Humboldt's notes on **328;** Kenya **560-561;** New Mexico 181; Yellowstone National Park **162-163**
Hot-water diving suits 58, **58,** 64
Hotel Cro-Magnon, Les Eyzies, France 617
Houghton Hall, Norfolk, England 663, 672
House, Hershel **814**
Houses: ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694
Housing project: Chongqing **296-297**
Hovell, William 256
***How We Found* Titanic.** By Robert D. Ballard in association with Jean-Louis Michel. Dec., 696-719
Howard, Lord **667**
Howell, F. Clark 579, 611, 612
Howler monkeys **332,** 336, 539
Hrbin, Avi **6**
Hughes, Alun 595
Hugoton, Kans.: Natural gas 361
Human evolution: Controversies 584, 592, 616, 617; Species **574-577;** Timeline **584-585**
Humboldt, Alexander Georg von 326
Humboldt, Alexander von: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351
Astronomy 336, 341, 344, 345
Centenary celebrations 350
Character 318, 326, 330, 344, 345
Cuba, travels to 320, 338, 345
Death 350
Map of travels 320-321
Mexico, travels in 320, 323, 326, 345
Orinoco river system, South America, travels on 320, **320-321,** 330, 336, 337-338
Places named for 318, 323, 336
Portraits **319, 322, 329, 330**
Quoted 330, 332, 334, 335, 336, 337, 345, 350
Russia, travels in 319, 349
Sciences pioneered 323, 324, 326
Sketches by **332, 347, 348**
South America, travels in 319, 320, 323, 336-338, 340-341, 342, 343-345; Map 321; *see also* Orinoco river system, *above*
Specimens collected 323, **323,** 328, 336, 337, 338, 340, 344, 345
Travel plans thwarted 330, 334, 349
United States, visit to 318, 319, 320, 345
Works 323, 326, 328, **329,** 330, 340, 345, 346, 349-350; Illustrations from **324-325, 338, 341**
Humboldt, Wilhelm von 323, 326, 330
Humboldt penguin **349**
Humboldt's Way. By Loren McIntyre. Sept., 318-351
Hume, Hamilton 256
Hunt, Ray 824
Huntington, Potter 81
Hussein, Saddam 1
Hussong, Don 159, 161
Hutchinson, Kevin 270, 273
Hutchinson, Kans.: Grain elevator 363
Hyde, Janet **365**
Hydroelectricity: Dead Sea facility **24-25;** Usumacinta basin dams (proposed) 514, 517, 525, 540, 543
Hyenas **582-583**

I

IBP, Inc. 365, 370
Ibex: Neandertals skinning **615**
Ibises, scarlet **320**
Ice ages 146; Effects on human evolution 582, 600
Ice caves 647, **649**
Ice-field system, subpolar 632, 633, **636-637, 640-641,** 653, **653;** Map 632-633
Ice grid **650**
Iceberg: *Titanic* collision 696, 701, 702, 704; Diagrams **704**
Ickworth (house), Suffolk, England **658-659,** 663
Icon: Madonna and Child **192**
Idaho: Earthquake 178-179
Ignatius, Saint, of Loyola 70
iketcho mussel: Cultured-pearl production **201**
Ilumquh (moon god) 499; Temple 495, **498**
Imam Reza, Shrine of, Mashhad, Iran 128, **129**
Immaculate Conception Church, near Danville, Kans. **382-383**
***In* Bounty's *Wake: Finding the Wreck of H.M.S.* Pandora.** By Luis Marden. Oct., 423-451
In vitro fertilization 82-83; Ova removal **100-101**
Inbal dance troupe members **39**
Incas: Guano fertilizer 345, 348; Roads **342-343,** 343, 344, 345; Sun worship 344
Incense *see* Frankincense; Myrrh
Indians of Central America: Usumacinta basin 520, 527, 528, 543; *see also* Miskito Indians
Indians of North America: Board game 532; *Central Plains,* The Making of America map series. Sept. supplement; *see also* Cherokee; Hopewell; Kansa; Shawnee
Indians of South America: Aguarunas **346-347;** Makiritares **334-335**
Indigo 492; Dye 492
The Indomitable Basques. By Robert Laxalt. July, 69-71
Indonesia: ***Saving the World's Largest Flower.*** By Willem Meijer. July, 136-140; Sulfur mining **175**
Indulgences, sale of 775
Initiation ritual: Diola 239, 240, **240, 241,** 243, 246
Institut Français De Recherches Pour L'Exploitation Des Mers (IFREMER) *see Titanic*
Institute for Works of Religion (Vatican bank) 749, 752; President **749,** 752
International Women's Day 286
International workers' day 785; Demonstration **784-785**
Interoceanic canal: Nicaragua, proposed for 782, 787, 792
Interstate 70: Kansas 360-361, 375
Ion microprobe 171-172, **173**
Iran:
Crown jewels **210-211**
Editorial 1
Iran Under the Ayatollah. By Michael Coyne. July, 108-135
Capital *see* Tehran
Enemies, hostility toward 109, 125; Anti-Israel socks **117;** Demonstration **114-115;** Walking on flags **108-109;** *see also* Iran-Iraq war
Flag 114, **114, 115**
Government: Aid to *basij* 119; Curtailment of Western influence 128, 133; Parliament **134-135,** 135; Supreme authority *see* Khomeini, Ruhollah
History 111
Hostage crisis 125
Map 108
Military: *basij* (volunteer fighters) 113, 114, **114-115, 116-117,** 117, 119, **125;** Soldiers **126-127**
Persian monuments 128; Shrine 128, **129**
Religion 109, 111, 135; Mullahs 109, 111, 113, 125, 130, **134-135,** 135; Photographs of martyrs 111, **111, 112;** Shiite Muslim militants 135
Revolution (1979) 111, 126, 128, 131
Shah *see* Mohammad Reza Pahlavi
War with Iraq *see* Iran-Iraq war
Women, restrictions upon 111, 122, 123, 128, 133
Iran-Iraq war 1, 109, 111, 117, 119, 120, 123, 125; Iranian camp **116-117;** Iranian murals **110,** 111; Map 108
Iraq: President 1; Shiite Muslim militants 135; *see also* Iran-Iraq war
Iron ore deposit: Australia **174-175**
Irrigation: Israel 9, 10, **19;** Murray basin 258-259, 262-263, 266, 270, **270-271,** 273; North Yemen 495-496
Isabella I, Queen (Castile and Aragon): Spanish Inquisition 735

UMI

Ishizuka, K. 213, 217
Islam: Ethiopia 748; Jerusalem 20; Saudi Arabia 482, 503; Senegambia 230, 234, 244-245, 249; *see also* Mourides; Muslims
Island formation: Volcanic activity 156, 159, 160, 161, 164
Isotopes, radioactive: Rock dating 172, 173, 176
Israel:
Iran's hatred of 114, defacement of flag 1, **108,** socks **117**
Israel: Searching for the Center. By Priit J. Vesilind. July, 2-39
Annexation: East Jerusalem 20; Golan Heights 11
Anti-Arab terrorism 25
Archaeology 22, **26-27,** 30
Arts: Dance **39;** Music 10, 15
Capital-city controversy 11
Economy 20; Defense costs 12; Inflation 12, recovery measures 19; Sources of funds 19, U. S. aid 19, 20
Education: Arab schools 20, 28, graduate **28;** Hasidic schools 28, **29;** Immigrants **21;** Yeshivas 28; Zionists' influence 2, 5
Emigrants 5
Independence (1948) 5, 11
Industry 5, 11, 20; Aircraft assembly **34;** Medical technology **13,** 20; Munitions 11, 20, **34, 35**
Irrigation technology 9, 10, **19**
Kibbutzim 5, 9, 10, 17, **18-19,** 20, 30, 31, 35, 37
Military: Negev (desert) facilities 9; Service requirements 8, 20; Soldiers **6-9,** 7, 30, 35, 38, oath at Masada 22
Occupied territories *see* Gaza Strip; Lebanon; Judaea
Politics 12, 17, 18; Right-wing shift 12, 25, 28; "Unity" government 18-19
Population 8, 11; Need for immigrants 20
Tourism 8, 12, 20, 30
Warfare 5, 7, 8, 11, 17, 20, 31, 35
Neandertals 616, grave **612**
Israel Philharmonic 10, 15
Issa Mesaoud, Sheikh 483
Istanbul, Turkey **406,** 415
Isua, Greenland: Ancient rocks 171, 173, **173**
Italy: Banking scandals 749, 752; Lateran Treaty (1929) 724, 728, 734-735; Unification 728, 735
Iveagh, Edward Cecil Guinness, first Earl of 674
Ixmay, Cipriano 527
Izaguirre, Manuel 64

J

Jabal Sawdah (peak), Saudi Arabia 503
Jackson, Moelagi 472
Jacobs, Bob 156
Jaguars 527, 529, 543; Attacking caiman **351;** Maya glyph **541**
James, Henry 694
James River, Va. 73, 74, 89
Jamestown (colony), Va. 87, 88-90
Jamrat, Ethiopia: Napalm attack 394
Japan: ***The Pearl.*** By Fred Ward. Aug., 193-223
Jarry, Jean 704
Jarvis, Antony and Vicky 692, 694
Jason (legendary Greek hero): ***Jason's Voyage: In Search of the Golden Fleece.*** By Tim Severin. Sept., 406-420
Java (island), Indonesia: Sulfur mining **175**
Java man 576, 579, 608
Jawara, Sir Dawda 238, **250**
Jayhawkers 381
Jeballi (Arabic dialect) 483
Jefferson, Don 370
Jefferson, Thomas 318, 345
Jeffery, David: ***Fossils: Annals of Life Written in Rock.*** Aug., 182-191
Jellyfish: Evolution 146, **149**
Jericho, West Bank, Israeli-occupied territory 30
Jerilderie, Australia: Raid by bushrangers (1879) 261
Jerusalem: ***Israel: Searching for the Center.*** By Priit J. Vesilind. July, 2-39
Arab residents 20, 24
Archaeological site **26-27**
Capital-city status 11, 20
Christianity 20; Pilgrim **8**
Islam 20; Mosque **4**
Jordanian-occupied area 11, 20
Judaism 2, 20; Cohanim 38; Ultra-Orthodoxy 28, **29,** 30, **30, 31;** Western Wall gathering **4-5**
Tourism 20
Jesuits *see* Society of Jesus
Jesus Christ 8, 37, 723, 738, 753, 759, 761; Images **731,** 741, **783**
Jewelry: Etruscan **770-771;** ***The Pearl.*** By Fred Ward. Aug., 193-223; *see also* Gold jewelry
Jialing Motorbike Factory, Chongqing, China 305
Jiang Minkuan **284,** 313
Jilleroos (Australian cowhands) ***Aug. cover,*** **252-253,** 254
Jinotega, Nicaragua **793**
Jiuzhaigou (resort area), Sichuan (province), China **314, 315, 316-317**
Jobe, Doudou 238, 239
Johanson, Donald C. 564, 585, 592, **595**
John Paul I, Pope: Sarcophagus 752
John Paul II, Pope **722, 723,** 734, 735, 743, 745, **753, 757, 763;** Assassination attempt 741, 745; Cardinals appointed by 750-751
Johns-Manville Corporation: Lawsuits against 81-82
Johnson, Lyndon B. 90
Johnson, Thomas T. 185
Johnson County, Kans.: Farmhouse **364;** Prosperity 365, 375
Jojoba cultivation: Israel 9
Jones, David 156, 158, 166-167
Jones, Georgeanna 82, **100**
Jones, Howard 82, 101
Jones, Rhys **269,** 275
Jordan, Martha 558
Jordan: East Jerusalem occupation 20; Nabataean ruins 511, 512, **513;** West Bank conflict 11, 21
Jordan River, Asia **18-19**
Juan de Fuca plate: Tube worms 164, **164**
Judaea (region), West Bank, Israeli-occupied territory 8, 11, 20, 38
Judaism: ***Israel: Searching for the Center.*** By Priit J. Vesilind. July, 2-39
Judgment Tree (historic elm) 834, **834-835,** 840
Judo instruction: Swiss Guard **740,** 745
Juffure, the Gambia 234, **236-237,** 238
Julius II, Pope 739, 742

K

KNM-ER fossils and bones **571, 601,** 605, 610
KNM-WT 15000 (*Homo erectus* skeleton): **Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629
Age at death 625, 628, 629
Age of skeleton 625, 627, 629
Completeness 624, 629
Discovery 624, **625,** 627; Site **624-625, 626**
Excavation 627, **626,** 629
Reconstruction **629**
Sex determined 628, 629
Significance 625, 629
Size 628, 629
Kaaba, Mecca, Saudi Arabia: Doors **509**
Kaapvaal craton, South Africa 173, 176, 177
Kabwe, Zambia: Fossil skull 612
Kahane, Meir 25
Kangaroos **254**
Kansa Indians 380, 381
Kansas: ***Home to Kansas.*** By Cliff Tarpy. Sept., 352-383
Aircraft industry 352, 356, 361, 372, 374-375, 378-379
Capital *see* Topeka
Civil War era 354-355, 360, 380, 381
Dust Bowl years 354, 356
Ethnic communities 362, 370, 375, 379, 380
Facts and figures 356
Famous people 356, **360-361,** 361-362, **372**
Farm foreclosures 354, 356; Protest against 354, **362**
Farm statistics chart 357
Flag **356**
Fossil fuel resources 361

Indians 362, 380, 381, 383
Map, land-use 356-357
Meat production and packing 356, 361, 364, 365, 370
Mennonites and Amish 352, 362, 377, 380, **380**
Mental health treatment 352, 376, 379-380
Rural depression 354, 356, 357, 362
Urban prosperity 356, 365, **372-373,** 375
Veterinary research 377-378, **381**
Wheat growing 352, **352-353,** 356, 361, 362-363, 377, 382
Kansas City, Kans. 356, 361, 370, 375, 380-381
Kansas City, Mo. 365, 375, 376
Kansas Coalition of Farmers and Labor: Protest rally 354, **362**
Kansas-Nebraska Act (1854) 381
Kansas State University, Manhattan, Kans.: Agricultural research 377-378, **381**
Kaplansky, Naomi 35
Karate instruction: Swiss Guard 741, 745
Kaskawulsh Glacier, Yukon Territory, Canada 648, 652
Kasmauski, Karen, photographer: ***Hampton Roads, Where the Rivers End.*** July, 72-107
Kassebaum, Nancy Landon 356, 360, **360-361**
kat (stimulant leaf) 496, 503, **503**
Katabatic winds 641
Katsitadze, Nino **420**
Kawah Ijen (volcano), Java (island), Indonesia 174
Kayakers: Kluane National Park Reserve **630-631**
Kayar, Senegal **232-233**
Kebara Cave, Israel: Neandertal grave **612**
Kedleston (village), England 686
Kedleston Hall, Derbyshire, England 663, **687;** Tourists **687**
Keelson: Basque galleon **60-61**
Kefar Giladi (kibbutz), Galilee (region), Israel 37
Kefar Habad, Israel: Festival **9**
Kelati, Luca 748
Kelly, Mike **159**
Kelly, Ned 261
Kenai National Wildlife Refuge, Alaska: Trumpeter swans 548, **554**
Kennedy, John F.: Mountain named for **656,** 657
Kennedy, Robert F. **656,** 657
Kent, England: Penshurst Place 663, **672-673;** *see also* Knole
Kentucky: ***Daniel Boone, First Hero of the Frontier.*** By Elizabeth A. Moize. Dec., 812-841
Kenya: Fossil hunters **580-581;** Fossils 561, **563, 571,** 579, 581, **601,** 605, 608, 609, 610; Hot springs **560-561;** *see also* Turkana, Lake
Keren, Ethiopia 390; Famine relief center **390-391**
Kernich, Janice and Rex **263**
Kerr, Robert 682
Khajim (village), Oman 483
Khazneh (ruin), Petra, Jordan 512, **513**
Khomeini, Ruhollah 1, 111, 126, 128, 135; Portraits **113, 118**
Kibbutzim 5, 9, 10, 17, **18-19,** 20, 30, 31, 35, 37
Kiflom, Adhanom **405**
Kilauea (volcano), Hawaii **144-145**
Kimberlite intrusion 176
Kimeu, Kamoya 605, 609, **626-627; Homo Erectus** ***Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629
King, Jim 548, **549,** 550, 551
King, John 827, 828
Kingsport, Tenn. 824
Kinmel Park (house), Wales 662, 689
Kinneret, Lake *see* Galilee, Sea of
Kinte, Binte 236, **236**
Kinte, Kunta 234, 236
Kirtley, Michael and Aubine: ***Senegambia—A Now and Future Nation.*** Aug., 224-251
Kitao, Syoichi 201, 217, 221
Kloof Mine, South Africa 176
Kluane Game Sanctuary, Yukon Territory, Canada 644
Kluane National Park Reserve, Yukon Territory, Canada: ***Kluane: A Century of Exploration.*** By Barry C. Bishop. Nov., 654-657; ***Kluane: Canada's Icy Wilderness Park.*** By Douglas Lee. Nov., 630-653
Campsite, prehistoric 647
Dangers to human visitors 632, 638, 639, 642, 644, **644, 645,** 647, 648
Exploration **630-631,** 647, 648
Glaciers **630-631,** 647, 648; Bulges **650-651;** Core sampling **648;** Meltwater pools **641;** Rock glaciers **640-641;** Surges **636-637,** 639, 641, 646
Grizzly bears 635, 639, 642, **642,** 644
Hikers **634,** 638-639, **644, 645;** Trails 634, 638, 646
Ice caves 647, **649**
Map 632-633
Protective status 633, 639, 647-648
Wildlife 634-635, 638, 641, 642, **642-643,** 643, 644, 647 *see also* Grizzly bears, *above*
Wildlife sanctuary 635, 643, 644
World Heritage Site (UNESCO-Designated) 632, 639
Kluane Ranges, Yukon Territory, Canada 638
Kneubuhl, John 460, 463
Knole (house), Kent, England 663; Staircase **675**
Knoll, Andy 170
Knorr (ship) **706;** Diagrams of *Titanic* search **705;** Interior **696, 706**
Knowsley Hall, Merseyside, England 662, 692
Knox, Lawana 178-179
Kobe, Japan: Pearl industry 203, 204, 217
Kohl, Larry: ***Continents Adrift; Life's Triumph; Origin of Earth and Life.*** Aug., 146-151
Kokanee 634, 644, 647
Koobi Fora (region), Kenya: Fossils 591, 605, 608, 610, 625, skull **571;** Volcanic ash layers 588, **590-591;** Zebra teeth from **597**
Koran **491;** Quoted: On camels 492, on Saba (Sheba) 495
Kosciusko National Park, Australia: Kangaroos **254**
Kouns, Nathan 837
Kow Swamp (archaeological site), Australia 269, 276
Krashes, Bert 200
Kromdraai, South Africa: Fossils 596, 597
Krukira, Nicaragua **800, 802,** 804
Kuhlmann, Wade **381**
Kulm, LaVerne **165**
kurasu mussels 214

L

Labor Alignment party (Israel) 12, 18; West Bank settlement 24
Labrador (peninsula), Canada: ***16th-Century Basque Whalers in America.*** July, 40-71
Lacandon Forest, Mexico 527, 528, 529, 543; Map 524
Lacandon Indians 520, 527, 543
Lacanjá River, Mexico 528
Lacantún River, Mexico 527, **528,** 530, **536,** 540; Map 524; Maya carvings **537**
Lacayo, Ramiro and Gloria **789**
La Ceiba, Guatemala **534-535**
La Chapelle-aux-Saints, France: Neandertal skeleton 614, 615
Laetoli, Tanzania: Fossils 564, 592, footprints 591-592, **593**
La Ferrassie, France: Cemetery 612; Neandertal skull **572-573**
La Garita (volcano), Colo. 177
Laitman, Jeffrey 600
Lake Mungo (archaeological site), Australia: Human skeletons 269, **269,** 275
Lamberts Point, Va.: Railroad tracks **89**
Lamm, Freddie **363**
The Land Where the Murray Flows. By Louise E. Levathes. Aug., 252-278
Landon, Alfred M. 356, 360, **360**
Landsat image: Appalachian Mountains **168**
Langley Research Center, Hampton, Va. 90-91
Lantian, China: Fossils 609
Laocoön (mythological character) 755, 773; Sculpture 755, **772-773**
La Paz (resettlement camp), Nicaragua **799**
La Peregrina (pearl) 222, **223**
La Prensa (Nicaraguan newspaper) 793, 794-795, 804

La Rica, Nicaragua: Resettlement of residents 785, 788, **798, 799**
Laser technology: Israel 20
Latendresse, Chessy 207, 218, **218,** 219
Latendresse, John 193, 194, 207, 218, **218,** 219, **219,** 222
Lateran Museum, Rome 771
Lateran Treaty (1929) 724, 728, 734-735
Laurenti, Mario 749, 752
Lava: Eruptions **144-145,** 159, 161; Flows 181, graph of risk **153;** Island formation 156, 159, 160, 161, 164; Magnetic minerals 156, 158; Seafloor spreading 160, 171
Lavi (fighter plane) 35
Lawless, Paddy 176
Lawrence, Thomas Edward 505, 506, 510; Quoted 506
Lawrence, Kans. **354-355,** 376, 381
Lawrence of Arabia *see* Lawrence, Thomas Edward
Lawson, Henry: Poem 273
Laxalt, Robert: ***The Indomitable Basques.*** July, 69-71
Layenne sect 244; Followers **244-245**
Leakey, Louis S. B. 599, 600
Leakey, Mary D. 590-591; Fossils found by **570,** 599, **601,** 605, footprints 591-592; Stone tools found by **602-603**
Leakey, Meave 605, 608
Leakey, Richard 605, 608, 609, **626, 628;** Fossils found by **601; Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629
Learjet (aircraft manufacturer) 375, 379
Lebanon: Israeli occupation 7, 11, 31, 35, 38, treatment of casualties **7,** 38; Shiite Muslim militants 135
Lebanon, Kans.: Hardware store **368-369**
Lee, Douglas: ***Kluane: Canada's Icy Wilderness Park.*** Nov., 630-653
Leicester, Thomas Coke, Earl of 678, 679, 689
Leo X, Pope 775
León, Nicaragua 782, 787
Leone, American Samoa: Football game **462-463**
Leopards: Australopithecines as prey 607, **607**
Les Eyzies, France: Cro-Magnon man discovered 617
Leshan, China 294-295
Le Suroit (ship) 704; Diagram of *Titanic* search **705;** Sonar search vehicle launch **706**
Levantinism 12
Levathes, Louise E.: ***The Land Where the Murray Flows.*** Aug., 252-278
Lever, J. J. and Susannah 273
Levy, David 12, 17
Lewis, Keith 278
Liangshan (area), China 296-297
"The Liberation of St. Peter" (Raphael) 755
Liberty Bell: Pearl-encrusted replica 202, **213**
Li Bo: Quoted 302-303
Libraries: Longleat House, Wiltshire, England **683;** *see also* Vatican Library
Lichtenberg, Georg Christoph: Quoted 579
Liddle, Brent 647
Lifeboats: *Titanic* 701, 704, 712, 718, **719;** Diagrams of launch **705**
Lifshitz, Chaim 8
Li Fushuang **307;** Wedding celebration **306**
Lightning: Kansas wheat field **353**
Likud coalition (Israel) 12, 16, 17, 18, 19, 24, 37
Lima, Peru: Humboldt's visit 345
Lima Reservoir, Mont.: Trumpeter swans 552
Limnos, Greece: *Argo* expedition 409, 410
Lincolnshire, England: Doddington Hall 663, 692, 694; *see also* Burghley House
Lindsborg, Kans. 362
Lin Ling 312, 313
Lintels, carved: Maya 536, 538, **541**
Lions: Images on animal rib **620**
Li Pingfen 290-291
Lipman, Peter 177
Little Creek Amphibious Base, Virginia Beach, Va. **94**
Little Miami River, Ohio 835
Liverpool, England: Museum **718**
Lloyd, Lance 278
Lobos de Afuera Islands, Peru: Guano 348; Pelicans **348-349**
Logan, Judith 54
Logan, Mount, Yukon Territory, Canada 644, **646,** 648, 655, **655,** 657
Logan's Fort (now Stanford, Ky.): Court-martial of Boone 838
Logging: Murray basin 262, **262,** 263; Usumacinta basin 525, 529, 530-531, 543
Lonesome Lake, British Columbia, Canada: Trumpeter swans **546-547, 556,** 557-558
Long Island (now Kingsport, Tenn.) 816, 824
Long Valley caldera, Calif. 179
Longleat House, Wiltshire, England 663, 684-685, **684;** Grounds **684-685,** 685; Library **683**
López, Julio 779, 780
Los Robles (suburb), Managua, Nicaragua: Home **789**
Lovejoy, Owen 564
Lowell Glacier, Yukon Territory, Canada **630-631, 636-637,** 646
"Lucy" (*Australopithecus afarensis* skeleton) 574, 585, 591, **592;** Age 564; Bipedalism 564, **564-567,** 585, 588, 593, diagram **593;** Reconstruction **564-567;** Size 564, 585
Lu Guoji **290**
Luisa, Sister **736**
Luther, Martin 775

M

Maale Adumim, West Bank, Israeli-occupied territory **32-33**
Ma'Arop, Véronique 212, 213
mabe oysters: Half-pearl production 216; Pearls 201, **216**
Mablaqah Pass, North Yemen-South Yemen 492, 493
MacArthur, Douglas: Memorial 105
McDonald, Wesley L. 76, 79
McEneaney, Terry 552
McGary, Hugh 830, 840
McGregor, Vic 171, **172**
McIntyre, Loren: ***Humboldt's Way.*** Sept., 318-351
McKelvey, Richard W. 558
McKinley, Mount, Alaska 632; Computer image **166-167**
Madain Salih (ruin), Saudi Arabia 510
Maderno, Carlo 742
Madison, Dolley 345
Madison County, Ky.: Early survey map **832**
Madonna and Child icon **192**
Madsen, Rees 552
Magdalena, Río, Colombia: Humboldt's travels 341, 343
Magma 151, 170, 176 *see also* Lava
Magnetic equator: Detection 344
Magnetic field, Earth's: Paleomagnetism 156, 158-159, diagram **158**
Magnetometer 437
Mahana bin Salem, Haj 482, 483, **484**
Main (ancient kingdom) 478, 482, 496, 505
Majlis (Iranian parliament) **134-135,** 135
Majolica (Spanish earthenware) **55**
Maka, Ethiopia: Fossils, hominid 588, 589, 592, dating of 589
Makapansgat, South Africa: Fossils 592, 595, 596
The Making of America map series 279; *Central Plains.* Sept. supplement; *Ohio Valley.* Dec. supplement
Makiritare woman **334-335**
Makkonen, Doug 648
Malaysia: ***Saving the World's Largest Flower.*** By Willem Meijer. July, 136-140
Maler, Teobert 525, 532
Mallee (region), Australia 273
Mam Indians 527
Mammals, evolution of 146, **150**
Man, prehistoric: **Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629; Murray basin 269, 275-276, skeletons 269, **269,** 275; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623

"The Man From Snowy River" (Paterson) 257
Managua, Nicaragua: Archbishop 780, **782,** 797; Cathedral **788;** Earthquake 780, 789, damage 780, **788, 789;** May Day protest **784-785;** 785; Population 780, 782; Riots (1978) 793
Manase, Western Samoa 471-472
Mandinkas (people) 234, 238, 248
Manhattan, Kans. 376-377
Mann, Alan 596, 598, 623
Mann, Zvi 37
Manor houses: ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694
Manos Unidas, Guatemala 527
Manu'a Islands, American Samoa 454, 456, 463 *see also* Ofu
Manzanares River, Venezuela 336
Mao Zedong 280, 284, 286; Statue **284, 285**
Map supplements 279; *Canada; Canada's Vacationlands.* Nov. supplement; *Central Plains,* The Making of America series. Sept. supplement; *Ohio Valley,* The Making of America series. Dec. supplement; *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement
Maps:
Africa, locating Senegal and the Gambia 227
The Americas: Humboldt's travels 320-321
Arabian Peninsula 485
Argo expedition route 410-411
Atlantic Ocean, locating *Titanic* site 704
Australia: Murray basin 256
Central America 514, 787
Eritrea (province), Ethiopia 389
Ethiopia, locating Eritrea (province) 389
France: Hominid sites before 10,000 years ago 586
The Gambia 227
Great Britain, locating country houses 662-663
Indonesia: Ranges of genus *Rafflesia* and species *R. arnoldii* 138
Iran 108
Israel 10-11
Kansas 356-357
Kentucky: Boone's Kentucky 816
Kluane National Park Reserve, Yukon Territory, Canada 632-633
Labrador (1546) 71
Labrador (peninsula), Canada, locating Basque whaling sites 48
Middle East 11
Murray River, Australia 256-257
Nicaragua 786
North America: Land claims in 1754 and 1820 817; Trumpeter-swan range 549
Pacific Ocean, locating Samoa Islands 453
Red Bay and region, Canada, locating Basque sites 49
Samoa Islands 453, 454-455
Senegal 227
Sichuan (province), China 287
Titanic wreck site 704
United States: Boundaries in 1820 817; Daniel Boone's America 816-817
Usumacinta River basin, Mexico-Guatemala 514, 524-525
Vatican City 728
West Bank, Israeli-occupied territory 10-11
World: *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement; Hominid sites before 10,000 years ago 586-587
see also Map supplements
Marañón, Río, Peru **346-347**
Marc Antony 201, 209
Marcinkus, Paul C. **749,** 752
Marden, Luis **449; *Wreck of H.M.S.* Pandora.** Oct., 423-451
Marib (ruin), North Yemen 493, 495, **498-499,** 499; Statue from **499;** Temple 495, **498**
Marin Headland (terranes): Computer image **154**
Marine life: Fossils **182, 186**
Mariners' Museum, Newport News, Va. 101, 102
Maritime Museum of the Atlantic, Halifax, Nova Scotia, Canada: *Titanic* deck chair **718**
Marlborough, John Churchill, first Duke of 671, 678
Marlborough, ninth Duke of 689; Painting **670**
Maroon, Fred J., photographer: ***The Great Good Places: English Country Houses.*** Nov., 658-694
Marqués de Comillas Zone, Mexico: Oil exploration 529
Marshack, Alexander 618
Martin, Sue 277-278
Marutea (atoll), French Polynesia: Black-pearl industry **194-197,** 212, 213
Masada (ruin), Israel **23;** Israeli Army oath 22
Masaya (volcano), Nicaragua 780
Mashhad, Iran: Martyrs' fountain **111;** Shrine 128, **129**
Mass (liturgy): St. Peter's Basilica **720-722**
Masters, Wayne **435**
Mastodon fossils **830**
Masumian, Mostafa 130, **130,** 131
Matafao Peak, American Samoa **458**
Matagalpa, Nicaragua: Climate 784; Coffee harvest **797**
Matternes, Jay H., artist: ***The Search for Our Ancestors.*** Nov., 560-623
Maudslay, Alfred 536
Maugham, Somerset: Short story 460
Mauna Loa (volcano), Hawaii 161
Mauricio, Juan Manuel 529
Mauritanian refugees: Senegal **242**
Mausoleums: Castle Howard, Yorkshire, England 667, **667;** Saudi Arabia **480-481**
Mawson, Sir Douglas 610
May Day: Nicaragua 797, protest **784-785**
Maya sites: ***The Usumacinta River: Troubles on a Wild Frontier.*** By S. Jeffrey K. Wilkerson. Oct., 514-543
Mbarak, Ali Abdullah 492
Mbodj, Mohamed 234
Mea Shearim district, Jerusalem 28, 30
Mead, Margaret: Samoa 453, 456
Meat packinghouse: Kansas 365, 370
Mecca, Saudi Arabia 482, 503, **508-509,** 509
Mecklenburg, Don 383
Medea 408, 418, 419, 420; Portrayal **420**
Medhane, Letemichael 388
Medici family: Popes 735-736
Medicine and health: Asbestos-related diseases 81-82; 18th-century medical instruments **436,** 446; In vitro fertilization 82-83, **100;** Israeli technology 12, **13,** 20; Malaria 343; Migrant workers' clinic 87; Nicaragua 784; Pearl-based pharmaceuticals **207,** 222; Serology: Basques 70; Treatment of war casualties **7,** 38, 119, 389, **392, 806-807;** Western Samoa 468-469; *see also* Folk medicine; Mental health treatment; Plastic surgery
Medina, Orlando 784, 792
Medina, Saudi Arabia 505
Mediterranean Sea: Tel Aviv beach **14-15;** Irrigation source 10
Meijer, Willem **136; *Saving the World's Largest Flower.*** July, 136-140
Meir, Golda 35
Mejía Victores, Oscar 534
Melamed, Eli 31
Melching, Molly 250
Menkorios, Askalu 400
Menninger, C. F. and William 376, 379
Menninger, Karl **376,** 379
Menninger, Roy 379
Menninger Foundation, Topeka, Kans. **376, 377,** 379
Mennonites: Kansas 352, 362, 377, 380, **380**
Mensink, Marian **238**
Mental health treatment: Kansas 352, 376, 379-380; Vietnam veterans 141
Mentmore (house), Buckinghamshire, England 663, 692
Merino, Victor **623**
Merkava tanks 20, **35**
Merseyside, England: Knowsley Hall 662, 692; Museum **718**
Metals *see* Ore deposits
Meteorites 151
Metite Camp, Ethiopia 403

Metulla, Israel 31
Mevo Hamma (kibbutz), Israel 31
Mexico: Auto-da-fé 735; ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351; ***The Usumacinta River: Troubles on a Wild Frontier.*** By S. Jeffrey K. Wilkerson. Oct., 514-543; Water from Colorado River 278
Mexico City, Mexico: Humboldt's visit 345; Population 540
Michel, Jean-Louis **696, 706; *How We Found* Titanic.** Dec., 696-719
Michelangelo 730, 742, 755; Sistine Chapel frescoes 729, 756, 757, **760,** 761; Statue by **768**
Microsurgical Research Center, Norfolk, Va. 84
Middle Ages: England 672, 674
Middle Awash Valley, Ethiopia: Fossils 588, 590
Middle East 1; ***Israel: Searching for the Center.*** By Priit J. Vesilind. July, 2-39; *see also* Arabian Peninsula; Iran
Mid-Ocean Ridge: Tube worms 164
Midwest (region), U. S.: *Central Plains,* The Making of America map series. Sept. supplement; *Ohio Valley,* The Making of America map series. Dec. supplement; *see also* Kansas; Missouri
Migratory Bird Treaty Act 549
The Mikado (Gilbert and Sullivan): Quoted 579
Mikimoto, Kokichi 202, 205, 207, 213
Mikimoto, Ume 202
Mikimoto company 203, 206
Mildura, Australia 273, 274; Immigrants **272**
Miller, Dan 179
Miller, Lonnie **380**
Millewa Forest, Australia 267
Milo, Hillel and Tamar 20
Mine (explosive device): Iran **116**
Minerals: Formation 151, 174, 176-177; Oldest known 172, 173
Minsheng Shipping: Founder **290**
Minto Flats, Alaska: Trumpeter swans 558, nesting site **552-553**
Mise, Tatsuhei 201, 202
Miskito Indians: ***Nicaragua: Nation in Conflict.*** By Mike Edwards. Dec., 776-811
Mission Hills, Kans. **365, 372,** 376
Missionary-Ethnological Museum, Vatican City 773
Mississippi River Valley, U. S.: Cultured-pearl industry 219
Missouri: Daniel Boone 816, 834, 836, 840, 841; Seismic risk graph **152**
Misura (Indian resistance group) 803, **808**
Misurasata (Indian resistance group) 803, 809
Mitochondria 151
Mitsiwa, Ethiopia: Docks **391**
Mobile by Alexander Calder **372**
Mobley, George F., photographer: ***Kluane: Canada's Icy Wilderness Park.*** Nov., 630-653
Mocha, North Yemen 496
Mohammad Reza Pahlavi, Shah (Iran) 111, 128, 133, 135
Mohammed, Amna **400-401**
Moize, Elizabeth A.: ***Daniel Boone, First Hero of the Frontier.*** Dec., 812-841
Moliga, Letalu 460
Mollusks: Fossils **183; *The Pearl.*** By Fred Ward. Aug., 193-223
Momotombo (volcano), Nicaragua 780
Monk, Murray **260**
Monkeys: Dental mold, making of **597;** Humboldt sketch **332;** *see also* Howler monkeys; Spider monkeys
Monks: Vatican City 748, 754
Monson, Melvin 548
Monsoons 483, 486
Montana: Trumpeter swans 548, 552 *see also* Red Rock Lakes National Wildlife Refuge
Monte Circeo, Italy: Neandertal graves 615
Montero, Juan M., II 87
Montes Azules Biosphere Reserve, Mexico 529
Monticello Arcade, Norfolk, Va.: Opera Ball **78**
Montúfar, Carlos 343, 344, 345, 346; Ecuador's rebellion 346
Montúfar, Rosa 343-344
Moon, Earth's: Formation 151
Moorbath, Stephen 170, 171, 173
Moore, Billy 102
Moore, Clarence 824
Moore, Henry: Sculpture by 372, **373**
Moose 635, 638
Morales, Moisés 543
Moran, Peter **413**
Moravians: Nicaragua 804, 805, missionaries 799
Morgan, Keith 826
Morrison, James 427, 435, 437, 439, 442
Mortar, marble **436, 437**
Mortimer, Seth, photographer: ***Jason's Voyage: In Search of the Golden Fleece.*** Sept., 406-420
Mosaics: St. Peter's Basilica **731,** 741
Mosquito nets, colored **293**
Mother-of-pearl 193, 195, 196, 202, 212; Fossilized **183**
Moths, bogong 252
Motorbikes: Sichuan 282, 297, 305, 311
Mount Temple, Lord and Lady 683
Mountain climbing: ***Kluane: A Century of Exploration.*** By Barry C. Bishop. Nov., 654-657
Mountain-making processes: Subduction 167, 177; Volcanism 177
Mourides: Senegal 227, 229, 230, 234, 244, **248-249,** 249, annual pilgrimage 229, 230-231, 249
Mousterian tools 614, 616, **616-617**
Mud brick construction: South Yemen **476-477, 489,** 490, 492
Mud volcanoes: Colombia **338, 339**
Mudie, Colin 408
Muese family 471-472
Muhammad (prophet) 505, 509; Bier 505; Passage to heaven 5
Muheirez, Abdullah 487
Muhtim, Saud 495-496
Mullahs: Iran 109, 111, 113, 125, 130, **134-135,** 135
Mulvaney, John 276
Mungo, Lake *see* Lake Mungo
Murals: Tehran, Iran **110,** 111
Murchey, Bonnie **158**
Murchison, Roderick 167, 169, 170
Murder trial: Tehran **130-131**
Murdock, Lorne 56
Murray, Sir George 256
Murray cod 256
Murray-Darling river system, Australia 252, 254, 256, 261; Dams and weirs 254, 263; Dry lake beds 269, 275
Murray River basin, Australia: ***The Land Where the Murray Flows.*** By Louise E. Levathes. Aug., 252-278
  Aboriginal inhabitants **266-267,** 267, 273, 274-275, 276, 277
  Agriculture 254, 262; Dairy farming 266; Fruit growing 273-274; Rice growing 262, **262-263,** 263; Sheep raising 261; *see also* Irrigation; Salinity problems, *below*
  Animal life 267, 273; Birds and fish 254, 256, 277, 278; Brumbies 256, 257; Dingoes 254; Kangaroos **254,** 273
  Archaeological sites **268,** 269, **269,** 275-276; Skeletons 269, **269,** 275
  Ecology disruptions 262, 267 *see also* Salinity problems, *below*
  European settlers, early 254, 267, 273, 274, 278; Bushrangers 261; Cockies 261-262
  Floods and droughts 254, 261-262, 267, 276-277
  Geographic features: Billabongs **258-259;** Cliff country **276-277,** 277-278; Dry lake beds 269, 275; Mallee 273; Salt basin 263
  History: Explorers 256-257; Gold rush (1850s) 261, 267; Paddle-steamer era 261, 264, 267, 270, 273; Railroad, arrival of 264, 267, 270
  Irrigation 258-259, 262, 263, 266, 270, **270-271;** Irrigation communities 262-263, 273-274
  Logging 262, **262,** 263
  Map of region 256-257
  Plant life 254, 261, 267, 273; Mallees 273; Map indicating vegetation types 256-257; River red gums 262, **262,** 267
  Salinity problems 263, 266, 270, **271**
Murrumbidgee (river), Australia: Flood 252

Music and musicians: Humboldt's dislike of 345; Israel Philharmonic 10, 15
Muslims: Burial customs 400, **400, 401; *Iran Under the Ayatollah.*** By Michael Coyne. July, 108-135; Senegambia 226, 227, 230 *see also* Mourides
Muspratt, William 437
Mussels: ***The Pearl.*** By Fred Ward. Aug., 193-223
Mussolini, Benito 728, 734-735
Mutis, José Celestino 343
Mycenaean civilization 409, 420; Navigation 415
Myrrh 483, 500; Medicinal uses 483, 487; Tree producing **500**
Mysza, Carol 743, 745

N

Nabataea (ancient kingdom) 482, 510; Capital 511; Tombs **480-481,** 510-511
Nablus, West Bank, Israeli-occupied territory: Refugee camp **36**
Nachtwey, James, photographer: ***Nicaragua: Nation in Conflict.*** Dec., 776-811
Nacre 193, 195, 197, 201, 203, 206; Cross section **205,** magnification **205;** Thickness standards 203, 204, 205, 206, 207, 213, 221
Naismith, James A. 376
Najran, Saudi Arabia 501
Nakfa, Ethiopia: Aerial view **396-397;** Attacks on 396; Underground homes 397, **398, 399**
Napalm: Ethiopian civil war use 394, 399; Wounds from **394-395**
Napier, John 600
Napoleon I, Emperor of the French 330, 345, 735
Nariokotome, Kenya: Fossil 609
Nariokotome River, Kenya 627, 629
National Aeronautics and Space Administration (NASA) *see* Langley Research Center
National Commission for the Promotion and Protection of Human Rights (Nicaragua) 796
National Gallery of Art, Washington, D. C.: Exhibit 681
NATIONAL GEOGRAPHIC: Map series 279; Reader response to Vietnam Veterans Memorial article 141
National Geographic Society: Expeditions: Mount St. Elias ascent (1890) 156, North American alpine expedition sponsorship 655, 657; Flag **656,** 657, **657;** Grants: Leakey, Louis S. B. and Mary 599, *Rafflesia arnoldii* study 137
National Guard: Nicaragua 780, 787, 792, 804, commander 792
National Museum, Aden, South Yemen 490
National Museum of Ethiopia, Addis Ababa, Ethiopia: Fossil laboratory **595**
National Museums of Canada: Red Bay archaeology 51
National park reserve *see* Kluane National Park Reserve
National parks: Saudi Arabia 503; *see also* Yellowstone National Park
National Trust: England 663, 689, 694
National Wildlife Refuges *see* Kenai National Wildlife Refuge; Red Rock Lakes National Wildlife Refuge
Natural gas: Buses fueled by **312-313;** Field: Hugoton, Kans. 361
Navigation: Basques 62, 63, 65
Nazareth, Israel 37
Nazari, Judge **130**
Neander Valley, Germany 614
Neandertals: Burials 629; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623
Necropolis, Roman 737, 738, 739, 742, 745
Needle, bone **617**
Negev (desert), Israel 8, 9, 10; Irrigation 9, **19;** Settlement 9
Negro, Río, South America 337, 338
Netiv ha Asara, Israel: Irrigation **19**
New England Primer: Quoted 595
New Madrid, Mo.: Earthquakes (1811-1812) 152
New Mexico: Rio Grande Rift 177, **178-179,** 180
New South Wales (state), Australia: ***The Land Where the Murray Flows.*** By Louise E. Levathes. Aug., 252-278
New World *see* The Americas
Newfoundland (island), Canada: ***16th-Century Basque Whalers in America.*** July, 40-71
Newport, Christopher 88
Newport News, Va.: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
Newport News Shipbuilding and Dry Dock Company 79, 80, 81; Submarine launch **106-107**
Nicaragua 695; ***Nicaragua: Nation in Conflict.*** By Mike Edwards. Dec., 776-811
  Agriculture: Bananas 787, 796, **796;** Coffee 785, 787, 790, 797, harvest **797,** disrupted by rebels 790, 791, 797; Cotton 778, 787; Tobacco **794, 795**
  American intervention (1909-1933) 786, 787, **787,** 792
  Baseball **780**
  Capital *see* Managua
  Caribbean coast 799, 804
  Censorship: Past 793; Present 794, 797, apologia for 794-795
  Civil war (1980s) 777; Cost 782; Deaths 806, **806-807**
  Cuba, aid from 782, 787, 804-805
  Economy 782, 786; Cash crops 778, 785
  Education 780, 784; Propaganda 784; Teacher training 784
  Emigration 778, 782, 798, 801
  Energy sources 787; Alcohol 805; Geothermal 780, 787
  Europe, aid from 780, 791, 804
  Exports 778, 782, 787, **796, 797;** Value 782
  Facts and figures 787
  Government 793; Directorate 793, 806; Expropriations 778, 793, 794, 796, 799, 803; National Assembly 796; Overthrown (1979) 778, 779, 780, 787, 794
  Human rights 778, 803, 810; Organizations monitoring 796-797
  Imports 778, 793; Cost 782
  Industry 782, 804; Planned expansion 805
  Maps 786, 787
  Political parties 779, 796
  Political prisoners 796
  Population 778, 787
  President *see* Ortega, Daniel
  Rationing 798; Gasoline 784
  Relocation of citizens 785, 788, 798, **798,** 799, **799,** 801
  Soviet ties 793; Aid 778, 782, 804, military equipment **776-777,** 780, 785
  United States: Aid to Contras 778, 793, 802, 809; Trade sanctions 778, 782, 785, 791, 794
Nicaraguan Democratic Force (FDN) 786, **808,** 809: Troops 809
Nicodemus, Kans.: Homecoming **378-379**
Nikkel, Vernon **815**
N'Jaye, Ibrahim 234
Nobel prize recipients: Vatican scientists 755
Norfolk, England: Mansions 663, 672, 689 *see also* Holkham Hall
Norfolk, Va.: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
Norfolk Naval Shipyard, Portsmouth, Va. **89**
Norfolk Shipbuilding and Drydock Corporation: Ship repair **92-93**
Norfolk Southern railroad: Switchyard **89**
North America: ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; *The Shaping of a Continent: Earth's Dynamic Crust.* Aug. supplement; ***16th-Century Basque Whalers in America.*** July, 40-71; ***The Triumphant Trumpeter.*** By Charles A. Bergman. Oct., 544-558; *see also* Canada; Caribbean region; Central America; Mexico; United States
North American plate 164, 166, 177
North Atlantic Treaty Organization (NATO) 76
North Yemen: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513

Northern lights: Legend 653
Northern right whale: Endangered status 67
Nottinghamshire, England: Welbeck Abbey 663, 689
Novato Quarry (terrane): Computer-drawn map **154-155**
Nuns: Vatican City **724,** 734, **736, 737,** 743, 748, 754, 761
Nu'uuli, American Samoa 460, 463
Nyah, Australia: Horse-and-driver team **265**

O

Obando y Bravo, Miguel Cardinal 780, **782,** 797
Obelisk, Egyptian: St. Peter's Square **727, 730, 758**
Obert, Ruth 369
Obsidian artifacts 647-648
Ocean floors 160-161; Computer image **160-161**
Oceans: Formation 151, 179; *see also* Archaeology, underwater
Ocelots 529; Pelts **528**
Ofu (island), American Samoa 454, 456, 457-458
Ogallala aquifer, U. S. 356, 363
Ogawa, Hidenobu 217
Ohio Valley, U. S.: *Ohio Valley,* The Making of America map series. Dec. supplement; *see also* Kentucky
Oil *see* Petroleum; Petroleum industry; *and* Whale oil
Oil rig: California **175**
Oilbirds: Caripe, Venezuela 336
O'Keeffe, Georgia: Quoted 180-181
Oklahoma: Kansa Indians 381
Old Chillicothe (former Shawnee community near Xenia, Ohio) 816, 835
Olde Towne (historic district), Portsmouth, Va.: Homes **84-85**
Oldowan tools 599, 600, **602-603, 604,** 605
Olduvai Gorge, Tanzania: Fossils **570,** 599, 600, **601,** 605; Stone tools 599, 600, **602-603, 604,** 605
Olympic (ship): Wing bridge **713**
Oman: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Omi Pearls Limited Company 217
Omo River, Ethiopia: Volcanic ash layers: Diagram **589**
Oñate, Cristóbal de and Juan de 70
Oñate, Spain: Basque archive 48
Ordination Mass: St. Peter's Basilica **720-722**
Ordovician period 169, 170
Ore deposits: South Africa 174, **175,** 176-177
Oregon State University, Corvallis, Oreg.: Researchers **165**
Oriental Jews *see* Sephardic Jews
Oriental Market, Managua, Nicaragua **790-791**
Orinoco (river), Venezuela: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351
Orotta, Ethiopia 389; Hospital 389, **392;** Orphans' camp 389
Ortega, Daniel 779, 785, 793
Orthodox Jews: Festival **9;** Rabbis 28; Sabbath observance 2, 10, 28, 30, 38
Ortiz, Enrita and Juan 799
Ottoman Turks: Occupation of Palestine 2; Railway (Arabian Peninsula) 505, **506-507**
Ouakam, Joe 250
Our Restless Planet Earth. By Rick Gore. Aug., 142-181
Overland Park, Kans. 375
Ovid: Quoted 608
Oxfordshire, England *see* Blenheim Palace
Oysters: ***The Pearl.*** By Fred Ward. Aug., 193-223
Ozone layer: Development 151

P

Pacific Islands *see* French Polynesia; Samoa Islands
Pacific Ocean: Basque sailors 70; Geology 153, 160-161
Pacific plate: Movement 160-161, 166, subduction 161, 164
Padang, West Sumatra (province), Sumatra (island), Indonesia 137
Paddle steamers: Murray River 261, 264, **264-265,** 267, 270, 273
Padilla, Higinio 528
Pagan (island), Mariana Islands: Volcano **157,** 159, 160
Pago Pago, American Samoa 455, 458, 459-460; Anti-union celebration **461;** Harbor 458, **458-459,** 459; U. S. Army enlistment office **462**
Paintings, restoration of 754
Paleoanthropology: **Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629; Murray basin 269, 275-277; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623
Paleomagnetism: Diagram **158;** Terrane-origin research 156, **159**
Paleontology *see* Paleoanthropology
Palestine Liberation Organization (PLO) 21, 37, 38
Palestinians: Homeland, desire for 21, 24, 37; Israeli-occupied territories 8, 20, 21, **36-37;** Refugee camps **36,** 38; Tel Aviv work force 12, 15
Pamplona, Spain: Name origin 70
Pandora, H.M.S. 421; ***Wreck of H.M.S. Pandora.*** By Luis Marden. Oct., 423-451
Artifacts 438, **440,** 442, **443,** 447, **447, 448, 449,** 450; Anchor **432, 433,** 438, **448-449;** Distribution diagram **430-432;** Glassware **432, 436,** 447, **447;** Medical equipment **436, 437,** 446, 447; Pencil, mechanical **451;** Recovery **433-434, 438-439, 443,** 446; Telescope **431;** Timepiece **444, 445,** 446
Bounty mutineers, imprisonment of 423, 424, 426-427, 429, 447; Prison box **422, 424-425,** 426-427, 442, 447
Cannon **430, 431, 432, 438, 439;** Number 424, 438
Discovery of wreck 428, 429, 437-438
Excavation 430, **433-434, 438-439,** 442, 446; Difficulties 435, 441-442
Maps 428
Paintings **422-423;** Deck **424-425**
Sinking 423, 424, 428, 429, 435, 437; Painting **424-425;** Survivor's account 435, 437
Tahiti, voyage to 424, 426, 429; Painting **422-423**
Pandora Cay, Australia: Currents 441; Turtles **426-427,** 441, 442
Pandora Entrance, Great Barrier Reef, Australia 437, 439
"Pandora's Box" (ship's prison) **422, 424-425,** 426-427, 442, 447
Pangaea (supercontinent) 169; Pre-Pangaea landmasses 146, 170
Papacy 723, 724, 728, 734, 735; Elections 729, 736, 750; History 735-736; Succession 723, 729, 734, 735, 736; *see also* Popes
Papal States 728, 735, 739
Parasitic plant *see Rafflesia arnoldii*
Parima, Lake (mythical) 337, 338, 341
Paris, Tom 80, 81
Park reserves *see* Kluane National Park Reserve
Parker, Maurice 90, 91
Parks Canada: Conservators 66, **67;** Marine archaeology director **58;** Red Bay archaeology 58
Parodi, Maurizio 754
Parrots **515,** 528
Parsons, John 278
Pasión River, Guatemala **526,** 527, 534, 540; Map 525
"Past Carin' " (Lawson) 273
Pastora, Edén 786, 809
Pater, Daniel 736, 737, 738, 739, 741, 742, 749
Paterson, A. B. "Banjo" 273; Poem 257
Patursson, Trondur 409
Paul III, Pope 733
Paul V, Pope 742
Paul VI, Pope 741, 745
Peaches: Preserving **274-275**
Peanut industry: The Gambia 226, 227, **230,** 231; Senegal 226, 227, 231, **231,** 234, 248; Virginia 91
Peanuts **91, 230**
Pearl River, China: Cultured-pearl industry 214
Pearl Shoal waterfall, Jiuzhaigou, China **316-317**
Pearls: ***The Pearl.*** By Fred Ward. Aug., 193-223
Care of 203, 222

History of popularity 193, 198, 201, 202, 209, 210, 216, 221
Jewelry and ornaments **192,** 198, 200, 201, 202, 206, **208,** 209, **209, 210, 213, 216, 218, 221,** 222, **223**
Luster 203, 206
Nacre 193, 195, 201, 203, 206; Magnification **205**
Naturals 193, **193,** 194-195, 198, **208,** 209, **209, 210,** 222, **223;** Formation 193, 198, 206, 221; Freshwater pearls 194-195, **210,** 218, **218, 221;** Sizes 206, 222; Value 193, 201, 202-203, 218, 222
Softness 203
Symbolism 193, 198
Texture 205
see also Cultured-pearl industry, *outlined*
Pei, W. C. 608, 609
Peking man 576, 608, 609
Pelias (legendary Greek king) 408, 409
Pelicans: Lobos de Afuera Islands, Peru **348-349**
Pemex (Mexican oil company) 529
Penguins: Humboldt penguin **349**
Penshurst Place, Kent, England 663, **672-673**
People's Democratic Republic of Yemen *see* South Yemen
People's Liberation Army (China) 308
Peoria, Ill.: Celebration 350
Peres, Shimon 18
Pérez, Carlos 790-791
Persegati, Walter 755, 756
Persian Gulf: Pearls from 200, 207, 209, **210-211**
Persian Gulf States: Shiite Muslim militants 135
Peru: Aguaruna Indians **346-347;** Guano fertilizer 345, 348
Peru Current, Pacific Ocean 344, 348
Petén (department), Guatemala 527, 529, 534, 540
Peter, Saint 723, 734, 735, 738, 739, 761; Crucifixion 730, 738, 742; Grave site, traditional 730, 735, 738, 739, 741-742, **745**
Petersen, Georg 345
Petra, Jordan 480, 482, 511, 512, **512, 513;** Caravans 512
Petralona, Greece: Fossil **572,** 612
Petroleum: Formation 174
Petroleum industry: Kansas 356, 361; North Yemen 496; Usumacinta basin 514, 525, 525, 529-530, 543
Petworth House, West Sussex, England 663, 674
Pevensey (paddle steamer) **264-265,** 270
Philippine plate 160-161
The Photographer's Perspective. By James L. Stanfield. Dec., 762-763
Piazza of St. Peter, Vatican City **727, 730,** 734, 742, **758-759;** Architect 730, 734, 742; Colonnade **727, 730,** 734, 742, **758, 759**
Pichincha (volcano), Ecuador 343
Piedra Azul state farm, Nicaragua **794-795**
Piedras Negras (Maya site), Guatemala 525, 539; Map locating 524; Plan to flood 524, 540, 543
"Pietà" (Michelangelo) 755, **768;** Damage **769;** Repair 769
Pigs: Sichuan ***Sept. cover***
Pika 644
Piletski, Malka 2, 5
Pilgrims and pilgrimages: Iran 128; Israel **8,** 30; Touba, Senegal 229, 230-231, 234, 249
Pilón de Pacheco, Marta 543
Piltdown man: Hoax 578
Pineda, Miguel **794**
Pio, Gaddi **740**
Pioneer of Modern Geography: Humboldt's Way. By Loren McIntyre. Sept., 318-351
Pitcairn Island, South Pacific Ocean: *Bounty* 424, 450, mutineers 426, 429, 449
Pius VII, Pope 735
Pius IX, Pope 764; Chalice commissioned by **765;** Likeness **764**
Pius XI, Pope 739, 754
Pius XII, Pope 748; St. Peter's Basilica excavations 739, 742, 745; Sarcophagus 742
Plains states, U. S.: *Central Plains,* The Making of America map series. Sept. supplement; *see also* Kansas
Planchón de las Figuras (Maya site), Mexico 540; Carvings 532, **537;** Map locating 524
Plants: Evolution 146, **149-150,** 151; Fossils **185, 188-189;** ***Saving the World's Largest Flower.*** By Willem Meijer. July, 136-140
Plastic surgery 84-85, 119
Plasto, Robert 111
Plate tectonics: Kluane National Park Reserve 638, 646; ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement
Pliny the Elder 201; Quoted 484, 488, 505, 585
Pocket watches: Shipwreck relics **444, 445,** 446, **696,** 718
Podor, Senegal: Drought 246
Poetry: Australian poems 257, 273; Greek epic poem *see Argonautica*
Point Reyes National Seashore, Calif.: Earthquake Trail 164, 166
Pollination: Coconut palm **471;** *Rafflesia arnoldii* 137, 139, 140, **140**
Polygamy: Senegal 245, 250
Polynesia *see* French Polynesia; Samoa Islands
Polynesie Perle **197,** 212, 213
Ponce, U.S.S.: Videotape message, filming of **96-97**
Pontifical academies 749, 755, 767
Pontifical North American College, Rome, Italy 748, 749
Pope, Tukemas 835-836
Popes 723, 728, 729, 734, 735, 752, 753; Borgia family 735-736; Election 729, 736, 750; Guards *see* Swiss Guard; Medici family 735-736; *see also* by name
Popocatépetl (volcano), Mexico **326-327**
Porcelain, Worcester **78-79**
Porch, Dick 442
Portland, dukes of 671, 689
Portrait, plowed: Will Rogers **370-371**
Portu, Joanes de 64
Posin, Essie 212, 213
Post-traumatic stress disorder (PTSD) 141
Posters: China **292-293, 301**
Potassium-argon dating 585, 588, 589, 605
Potawatomi Indian Reservation, Kans. 362
Powell, Phil 496
Powell Valley, Tenn.-Va.: Daniel Boone 823, 824, painting **825**
Powis Castle, Wales 662, 681, **681;** State Bedroom **680-681**
Prehistory *see* Man, prehistoric
Preparatory School of Ampleforth College: Students **678-679**
Priests: Vatican City **721-722,** 748, 749
Prisby, Don 748
Prisoners of war: Ethiopian soldiers **393**
Project Mercury training site 90
Prokaryotes: Fossils 182, **182**
Prometheus 417, 420
Prophet's Mosque, Medina, Saudi Arabia 505, 509
Protest demonstrations: Iran 1; Kansas 354, **362**
Proud Mary (tourist boat) **276**
Puerto Ayacucho, Venezuela 337
Puerto Cabezas, Nicaragua 799; Green turtle fishery **802**
Pyramids: Cholula, Mexico **327**
Pyrenees (mountains), France-Spain: Basques 69

Q

Qafzeh, Israel: Fossils 616
Qana, South Yemen: Ancient port 483, 485, 487, 488
Qasrin, Israel 31
Qiong Hai (lake), China 296
Qom, Iran: Theological school **134,** 135
Quantrill, William C. 381; Confederate raiders 355, 381
Queensland Museum, Brisbane, Australia: *Pandora* excavation 429, **438,** 438-439, **439,** 450
Quercetti, Sesto 755
Quiché Indians 527
Quinn, Joe 748-749
Quintana Roo (state), Mexico: Refugees 531
Quito, Ecuador: Humboldt's visit 343-344
al-Qusais, Salim 486-487

UMI

R

Rabbinical Courts: Israel 28
Radiolarians 156, **158**
Radiometric dating 172; Fossil hominids 585, 588, 589, 590, 599, 605
Raffles, Sir Thomas Stamford 136
Rafflesia (plant genus): Range 138, map 138
Rafflesia arnoldii (parasitic plant): ***Saving the World's Largest Flower***. By Willem Meijer. July, 136-140
Rafsanjani, Hojjatoleslam Hashemi 122
"Rain" (Maugham) 460
Rain forests: ***Saving the World's Largest Flower***. By Willem Meijer. July, 136-140; ***The Usumacinta River: Troubles on a Wild Frontier***. By S. Jeffrey K. Wilkerson. Oct., 514-543; Venezuela **333**
Raines, Richard 529
Rainmaker Hotel, American Samoa 459
Raleigh, Sir Walter 337, 341
Ram cult: Soviet Georgia 419, 420
Rambam Medical Center, Haifa, Israel: Patients **7**, 38
Ramot Polin, Jerusalem 28
Raphael (artist) 742, 748, 755, 761
Ratzinger, Joseph Cardinal 748
Raybun, South Yemen 492
Raynham Hall, Norfolk, England 663, 672
Readman, Tim 409
Rebels Rock, Ky. **820-821**
Red Bay, Canada: ***16th-Century Basque Whalers in America***. July, 40-71
Red Bay (town), Newfoundland, Canada 50-51; Aerial view **50-51**
Red Rock Lakes National Wildlife Refuge, Mont.: Trumpeter swans 548, 549, **551**, 552, 557
Red Wall, St. Peter's Basilica, Vatican City 741
Reeder, Andrew 381, 383
Reeder, Dan 376
Refugee camps: Israeli-occupied territories 21, **36**; Mexico 524, 525, 530-531, **531**
Refugees: Ethiopian Jews 5, **21**; Guatemalans 514, 524, 530-531, 535; Mauritanians **242**; Palestinians 21, **36-37**
Regourdou, France: Neandertal graves 614
Reisfeld, Renata **24**
Renaissance Center Project, Kansas City, Kans. 375
Renmark, Australia 273, 274
Reptiles: Fossil **186**; *see also* Snakes; Turtles
Resins *see* Frankincense; Myrrh
Reuter, Richard 206, 207, 222
Revival meeting: Virginia **102-103**
Revolutionary Democratic Alliance (ARDE) 809, **809**
Revolutionary Guards (Shiite Muslim loyalist force): Iran 117, 125, 128, 133
Revolutionary War *see* American Revolution
Rey, George **696**
Rice growing: Murray basin 262, **262-263**, 263; Sichuan **308-309**
Rich River Festival, Echuca, Australia 264
Richards, Mark 409, **413**
Richardson, Stephen **172**, 176
Rifts: Western U. S. 177, **178-179**, 180
Riley, Jack 256, 257
"Ring of Fire" (volcanic activity zone) 153
Ringer, Jim **45**
Rings, papal **764**
Rio Grande Rift, N. Mex. 177, **178-179**, 180
Riobamba, Ecuador 344
Rioni River, U.S.S.R.: *Argo* expedition **416**, 417-418; Bronze Age sites 418, 419
River red gums **262**, 267; Timber for paddle steamers 267, 270
Rivers: ***The Land Where the Murray Flows***. By Louise E. Levathes. Aug., 252-278; ***The Usumacinta River: Troubles on a Wild Frontier***. By S. Jeffrey K. Wilkerson. Oct., 514-543; *see also* Hampton Roads
Roads and road building: Incas 343, 344, 345; Sichuan **302-303**, **304-305**; Usumacinta basin 524, 525, 529, 531, **533**, 540, 543
Robertson, M. G. (Pat) **102**, 107
Rock glacier: Kluane National Park Reserve **640-641**
Rocks, oldest known 170, 171, 173, **173**
Roebuck Deep Pearls 211, 212
Rogers, Will: Portrait **370-371**
Roggen, Carol and Hans 743, 745
Roggen, Clare and Kathleen **743**, 745
Roggeveen, Jacob 457
Roman Catholic mission, Keren, Ethiopia: Relief center **390-391**
Roman Catholicism: Nicaragua 778, 779, 780, 782; ***Treasures of the Vatican***. Dec., 764-775; ***Vatican City***. By James Fallows. Dec., 723-761
Roman Empire: Invasion of Arabia 496; Masada siege 22; Pearls, popularity of 201, 202, 209, 210, 216
Rome: Sack (1527) 741, 744, 775
Rome, ancient 737; Frankincense use 483, 487; Persecution of Christians 738
Rome, Italy 728; Roman Catholic bishops 723, 725, 734, 735, 753; Universities 748-749; *see also* Vatican City
Rongxian, China: Buddha 286
Roots (Haley) 234, 236
Rosebery, Dowager Lady 692
Rosov, Bob 379
Ross, Edward S., photographer: ***Saving the World's Largest Flower***. July, 136-140
Ross, Rudd 256
Rossi, Maurizio 761
Rouse, James: Pavilion designed by **82**, 105
Rovasenda, Enrico di 755
Royal Australian Air Force: *Pandora* discovery 437
Royal Canadian Geographical Society: Citation awarded by 49
Ruloff, Robert, and family 83, **101**
Rumelihisarı (fortress), Turkey 415
Rusinga Island, Kenya: Fossil **563**
Russell, Henry 824
Russell, I. C. 657
Russia: Humboldt's visit 319, 349
Rutland, dukes of 661, 694
Rye, Raymond **185**

S

Saam Njaay (village), Senegal 250
Saba (ancient kingdom) 482, 493, 495; Capital 482, 493, **498-499**
Sabban, Abdul Qadr 492
Saber-toothed cats: Fossil **191**
Sabota, South Yemen *see* Shabwah
Sackville, John Frederick 674
Sadah, North Yemen 496, 500
Sadat, Anwar 20-21
Saddle Island, Newfoundland, Canada: Aerial view **50-51**; Basque whaling stations 51, 53, artifacts **54, 55**, cemetery **56-57**
Safua Hotel, Taga, Western Samoa 472
Sahel (southern Sahara region): Drought 243, 246
Sailing vessels: Canoes **802-803**; *see also Argo* (wooden ship); *Pandora; and* Basques
Sailplane flying: Waikerie, Australia 277-278
St.-Césaire, France: Neandertal skeleton 615
St. Charles County, Mo.: Cabin **812**
St. Elias, Mount, Alaska 156, 158
St. Elias Mountains, Alaska-Canada: ***Kluane: A Century of Exploration***. By Barry C. Bishop. Nov., 654-657; ***Kluane: Canada's Icy Wilderness Park***. By Douglas Lee. Nov., 630-653
St. Helens, Mount, Wash. 162, 166, 177, 179, **180-181**; Eruption (1980) 179, 180
St.-Jean-de-Luz, France 69
St. John Lateran, Cathedral of, Rome, Italy 735, 741, **753**
St. Lawrence River, Canada: Discovery 43
St. Peter's Basilica, Vatican City: ***Treasures of the Vatican***. Dec., 764-775; ***Vatican City***. By James Fallows. Dec., 723-761
St. Peter's fish 17, 30
St. Peter's Square, Vatican City **727**, **730**, 734, 742, **758-759**;

Architect 730, 734, 742; Colonnade **727, 730,** 734, 742, **758, 759**
St. Pius X Preseminary, Vatican City 737, 747, 749, 752; Students **746-747, 749**
St. Stephen's Church, Vatican City 748
Sala Regia, Vatican City **732-733**
Salatielu, Reverend 458
Saldanha, South Africa: Fossil 612
Salehi, Hassan 130
Salehi, Monireh 130-131, **131**
Salinas River, Mexico-Guatemala 527, 530; Map 524-525
Salinia and Permanente (joined terranes): Computer image **154**
Salinity problems: Australia 263, 266, 270, **271,** 278
Salisbury, Robert Arthur Talbot Gascoyne-Cecil, third Marquess of 682
Salisbury, Robert Cecil, first Earl of 682
Sall, Boubou 246
Salt caravan: South Yemen 493
Salt Lake City, Utah: Geology 177, 178, seismic risk 179
Salt mine: South Yemen **494**
Salt wells: Zigong, China 313
Saltmaking: Kentucky settlers 816, 830, 835, kettle **830**
Samaria (region), West Bank, Israeli-occupied territory 8, 11, 38
Samburu Hills, Kenya: Fossil hunters **580-581**
Samoa Islands: ***The Two Samoas, Still Coming of Age.*** By Robert Booth. Oct., 452-473
sampietrini (Vatican workers) 742, 743, 754
San Albino (gold mine), Nicaragua 792
San Andreas Fault, Calif.: Computer-drawn graph and map **152, 154;** Tectonic plates 152, 154, 155, 164, 166, 179
San Bruno Mountain (terrane): Computer image **154**
San Carlos, Venezuela 338
San Cristóbal (volcano), Nicaragua 778
San Francisco Bay area, Calif.: Earthquake (1906) 166; Terrane movement 154, 155-156, computer-drawn map **154-155**
San José (shipwreck) 421
San José de Bocay, Nicaragua: Skirmish near **806,** 810, fatality **807**
San Juan (Basque galleon) 58, 62, 64; Crew 64, diet 65; Salvage (16th century) 64, 65; Wreck, presumed **59, 60-61,** 62, **63**
San Juan del Sur, Nicaragua 782
San Juan Islands, Wash.: Trumpeter swans 558
San Juan Mountains, Colo.: Ancient volcano 177
San Pedro River, Guatemala-Mexico 527, 543; Map 524-525
San Sebastián de Yalí, Nicaragua 791
Sana, North Yemen 496
Sandinismo (Sandinista philosophy) 793
Sandinista National Liberation Front: ***Nicaragua: Nation in Conflict.*** By Mike Edwards. Dec., 776-811
Sandino, Augusto Cesar: ***Nicaragua: Nation in Conflict.*** By Mike Edwards. Dec., 776-811
Sangiran, Java, Indonesia: *Homo erectus* fossils 608
sankaku mussels 214
Santa Fe, N. Mex.: Rift 177
Santa Fe Trail 381, 383
Santa Maria di Galeria, Italy: Vatican Radio broadcast center 755
Santander, Spain: Prehistoric sculpture 623
Sapapali'i, Western Samoa: Church **468**
SAR (sonar search vehicle) **706**
Saravia, Enrique José 778
Sarcophagi: Vatican City 745, 752; Corner mask **744**
Saudi Arabia: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Savai'i (island), Western Samoa 463, 469, 471-472; Beach **452-453;** Church **468**
Saving the World's Largest Flower. By Willem Meijer. July, 136-140
Sawa, Ethiopia: Hospital **400-401**
Sayaxché, Guatemala: Canoe port **526**
Sayun, South Yemen: Museum 490; Suq **493;** Tombs **490-491**
Scarification: Eritrean tribes **395**
Scarsdale, Lord and Lady, and sons **687**
Schick, Kathy 611
Schlecht, Richard, artist: ***16th-Century Basque Whalers in America.*** July, 40-71
Schmok, Jeff 646
Schoeninger, Margaret 597
Schoolroom: El Arbolito, Guatemala 532, **535**
Scitex corporation: Founder **3**
Scope (convention center), Norfolk, Va. **86,** 105
Sea lion: Sketch **348**
Sea turtles *see* Green turtles
Seafloors: Age 160, 161, computer image **160-161;** Fossil record 170; Spreading 160-161, 171
Seamounts 160; Computer images **160-161**
The Search for Our Ancestors. By Kenneth F. Weaver. Nov., 560-623
Search vehicles *see Argo;* SAR
Searching for the Center: Israel. By Priit J. Vesilind. July, 2-39
Seawater: Irrigation 10, 19
Sebastia, Sister 748
Second Temple, Jerusalem: Remnant **4-5**
Second Vatican Council 745
Secret Archives of the Vatican 775; Document **774-775**
Sede Boqer (kibbutz), Israel 9, 10
Sedgwick, Adam 167, 169
Sedgwick County Zoo, Wichita, Kans.: Breeding program 378
Seidler, Ned M., artist: ***Continents Adrift; Life's Triumph; Origin of Earth and Life.*** Aug., 146-151
Seismic risk zones, United States: Computer-drawn graph **152-153**
Semler, Zvika 12
Seneca, Lucius Annaeus: Quoted 209
Senegal: ***Senegambia—A Now and Future Nation.*** By Michael and Aubine Kirtley. Aug., 224-251
Capital *see* Dakar
Colonial history 226, 229, 238
Democracy 226
Drought 226, 227, 243, 246; Cattle carcasses **242-243**
Economy 226, 227, 248
Facts and figures 226
Farming 234, 246, 248
Fishing 226, 233, 234, 246
Flag **226**
French influence 225, 226, 238, 239, 246, 249, 250
Independence 226, 238
Islam 230, 234, 244-245, 249, 250; Brotherhoods 227, 244-245 *see also* Mourides, *below*
Map 227
Mourides 227, 229, 230, 234, 244, **248-249,** 249; Annual pilgrimage 229, 230-231, 249
Peanut industry 226, 227, 230-231, 234, 248; Cattle feed **231**
Political parties 226
Tourism 227, 234, 250
Senegal River, Africa: Dams planned 227, 243, 246
Senegambia—A Now and Future Nation. By Michael and Aubine Kirtley. Aug., 224-251
Senghor, Léopold S. 227
Senkevitch, Yuri 418
Sephardic Jews: Israel 12; *see also* Ethiopian Jews
Sequeira, Gerardo Barreto 791-792
Sequoia twig fossil **638**
700 Club (television show): Host **102**
Severin, Tim **420;** ***Jason's Voyage: In Search of the Golden Fleece.*** Sept., 406-420
Seward Glacier, Yukon Territory, Canada 648, **648**
Shabwah, South Yemen 488, 490; Archaeology 490; Salt mine **494**
Shamir, Yitzhak 19
Shanghai, China: Pearl cultivation near **215;** Pearl factory **215,** 222
Shanxi Province, China: Fossil skull 612
The Shaping of a Continent; Earth's Dynamic Crust. Aug. supplement
Sharks, stuffed **235**
Sharon, Ariel 17
Shasta, Mount, Calif. 179
Shawnee Indians: Adoption of Daniel Boone 816, 835, 836; Seige of Boonesborough (1778) 829, 836-838, painting **828-829**

Sheba (ancient kingdom) *see* Saba
Sheba, Queen of 482, 495
Sheep: Australia **260,** 261; Tehran slaughter **114;** West Bank **32-33;** *see also* Dall sheep
Sheepskins, pegged: Gold collecting **418,** 419, 420
Shekel (Israeli currency) 12, 19
Shell beads: Cultured-pearl nucleii 193, 194, 195, **200, 216,** source of shells 193, 194, 206, 219
Sheng Yu Lin 222
Shibam, South Yemen: Mud brick architecture **476-477,** 490; Plumbing 491, 492
Shiite Muslims: ***Iran Under the Ayatollah.*** By Michael Coyne. July, 108-135
Shilony, Etay 35
Shiniuhai Lake, Sichuan (province), China **314**
Shintone River, Japan: Cultured-pearl industry **201,** 217
Ship carving, miniature 101-102
Shipbuilding: Basques (16th century) 62, 64; ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107; Paddle steamers 270, 273; Replica of ancient ship 408
Ships *see Argo* (wooden ship); *Knorr; Le Suroit; and* Shipwrecks
Shipwrecks: ***How We Found* Titanic.** By Robert D. Ballard in association with Jean-Louis Michel. Dec., 696-719; Protection of wreck sites 421; ***16th-Century Basque Whalers in America.*** July, 40-71; ***Wreck of H.M.S.* Pandora.** By Luis Marden. Oct., 423-451
Shipyards: Chongqing, China: Welder **297;** Virginia **72-73,** 79, 81, **88-89, 106-107,** repair work **91-92,** workers' diseases 81-82
Shire, Maurice 195, 198
Shredded documents: Former U. S. Embassy, Tehran **124-125**
Shrewsbury, Dowager Countess of *see* Talbot, Elizabeth
Shrine: St. Peter's Basilica 730, 741, 742, **745**
Shrine of Imam Reza, Mashhad, Iran 128, **129**
Shungura formation, Ethiopia: Diagram **589**
Sichuan (province), China: ***Sichuan: Where China Changes Course.*** By Ross Terrill. Sept., 280-317
  Agriculture 286, 288; Grain crops 286, 308, rice fields **308-309;** Pig farmers ***Sept. cover;*** Tenant farming 288
  Area 282, 287
  Consumer goods 282, 293, 297, 305, 311; Advertisement **292-293;** Truck sale **288-289**
  Economy: Private enterprise 282, 286, 288, 290, 311, entrepreneurs 288, 290-291, **290, 291, 293;** Productivity 286; Reforms 280, 296, 299, 312-313, 315
  Ethnic groups 282, 286, 296, 297-299
  Family planning 295, 299, 306
  Foods 286, 299, 301, 308; Restaurants 308, **310-311**
  Highways and roads **302-303;** Workers **304-305**
  Labor force: Productivity incentives 297, 304-305; Unemployment 286; Wages 297, 304-305, 311
  Leisure time activities 291, **294,** 304, **314, 315;** Ballroom dancing **282-283,** 311-312
  Map 287
  Natural resources 284, 286, 297, 298, 304
  Population 282, 287; Growth 299
  Religious life 291, 294
  Tourism 291, 294, 296, 315
  Wedding customs 306-307
  Western influences 280, 294, 295, 299, 311
Sichuan-Tibet road **302-303**
Siebenberg, Theo **26;** Home **27**
Silurian period 169, 170
Silverman, Marc 35
Siman, Ibrahim 38
Simchas Torah (festival): Celebrants **9**
Simon Peter *see* Peter, Saint
Simons, David **19**
Simons, Elwyn 563, 580, 581
Sinai Peninsula, Egypt 9, 11
Sinanthropus pekinensis see Peking man
Sinclair, Kay ***Aug. cover,* 252-253**
Sindona, Michele 752
Single-celled organisms 182; Fossils **182**
Siq (rock cleft), Jordan 511
Sistine Chapel, Vatican City: Ceiling restoration 756, 757, **760,** 761; Cutaway diagram **729;** Papal election site 729
Six Day War 11, 35, 37
16th-Century Basque Whalers in America. July, 40-71
Sixtus IV, Pope 748
Skagit Valley, Wash.: Trumpeter swans **544-545,** habitat loss 558
Skeletons, human: Basque whalers **56-57;** **Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629; Mungo people 269, **269,** 275; ***The Search for Our Ancestors.*** By Kenneth F. Weaver. Nov., 560-623
Skhul, Israel: Fossils 616
Ski resort: Iran **132,** 133
Skiing, cross-country: Kluane National Park Reserve 634, 638
Skull hologram ***Nov. cover***
Slagle, Elizabeth "Bobby" **85**
Slave trade, transatlantic 234, 236, 238
Sled dogs: St. Elias Mountains **657**
Slutsky, Isedor 221
Smith, Bob 177, 178
Smith, Bryson **86**
Smith, Edward J. **702;** Sword **718**
Smithfield, Va.: Ham production **90-91**
Smuggling: The Gambia 226, 239
Snail, pearl containing **221**
Snakes: Tree snake **332**
Snowdonia, Wales: Fossils 167
Snowy Mountains, Australia 252, 254, 256, 257, 261; Horseback riders **255;** Jilleroo ***Aug. cover,* 252-253;** Kangaroos **254**
Snowy Mountains Scheme (hydroelectricity and irrigation) 254
Soccer: Vatican City 747, 752
Society of Jesus: Founder 70; Radio station *see* Vatican Radio
Soil: Rain forests 528
Solar energy: Hydroelectrical works **24-25;** Research **24**
Solar system: Development 151
Soleilhac, France: Hominid site 612
Solomon, King (Israel) 495, 499
Somerset, Duke and Duchess of 674
Somoza, Anastasio *see* Somoza regime
Somoza García, Anastasio 786, 787, 792
Somoza regime (Nicaragua) 778, 786, 787, 789, 791, 795; Overthrow 778, 779, 780
Sonar: *Titanic* search 704, 706, diagram **705**
Sondermeyer, Rudy 441
South Africa, Republic of: Craton 173, 176, 177; Diamond mine 173, 176; Fossils 182, **182, 569-570,** 578, 595, 596, 607, **607,** 612, dating 589, 596; Geologic stability 177; Gold deposits 174, **175,** 176-177
South America: ***Humboldt's Way.*** By Loren McIntyre. Sept., 318-351
South Australia (state), Australia: River 252, 277, 278, houseboat fleet 270
South Pacific islands *see* French Polynesia; Samoa Islands
South Sea pearls 206, 213, 217 *see also* Black pearls
South Yemen: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Southampton, England: *Titanic*'s departure **702**
Southern Tutchone (people) 633, 647; Legends of 647, 648
Soviet Georgia *see* Abkhazian A.S.S.R.
Soviet Union *see* Union of Soviet Socialist Republics
Sow, Fatou 249, 250
Space research: Virginia 90-91
Spain: Basques 71; Jews expelled 735; Kansas exploration 380
Spanish Armada: Vessels 67
Spanish Inquisition 735
Spearthrowers: Carvings **620-621**
Speech: *Homo erectus* 609
Spices: North Yemen suq **501**
Spider monkey: Captured infant 529

"spiritual pollution" campaign: China 294, 299
Spoonbills **320-321**
Spruce grouse **643**
Staley, Rick 646
Stamford, England *see* Burghley House
Stanfield, James L.: ***The Photographer's Perspective.*** Dec., 762-763; Photographer: ***Israel: Searching for the Center.*** July, 2-39; ***Treasures of the Vatican.*** Dec., 764-775; ***Vatican City.*** Dec., 723-761
Starkist tuna cannery, Pago Pago, American Samoa 459; Workers **461**
Starship 1 (aircraft) **374-375,** 379
State of Vatican City *see* Vatican City
Stately homes: ***The Great Good Places: English Country Houses.*** By Mark Girouard. Nov., 658-694
Station Camp Creek, Ky. 824
Steinheim, Germany: Fossil 612
Stela: Maya **521**
Sterkfontein, South Africa: Fossils **569,** 578, 595, 596
Stevens, Willis 64
Stevenson, Robert Louis: Tomb 472, **473,** elegy 472
Stone tools **616-617;** Demonstration of use **611;** Olduvai Gorge, Tanzania 599, 600, **602-603, 604,** 605; Used by early man 576, 600, 605, 609, 610, 614, 616
Stones, Bones, and Early Man: The Search for Our Ancestors. By Kenneth F. Weaver. Nov., 560-623
Stopp, Marianne **65**
Story, Tammy **219**
Storytellers: Chengdu, China **298;** The Gambia *see* Kinte, Kunta
Stowe (house), Buckinghamshire, England 663, 682
Strabo (geographer) 419, 420
Strawberry Hill (neighborhood), Kansas City, Kans. 370, 375
Stringer, Chris 616
Strode, William, photographer: ***Daniel Boone, First Hero of the Frontier.*** Dec., 812-841
Stromatolites **147-148,** 151, 171, **171**
Stuart, David 527, 532, 536, 538, **541**
Stuart, George 527, 532, 536
Sturt, Charles 256
Suau, Anthony: ***Eritrea: Region in Rebellion.*** Sept., 384-405
Suazo, Onofre 798
Subduction (plate tectonics) 161, 166, 177, 178, 180, 181
Submarines, nuclear-powered 81, **106-107**
Suess, Erwin **165**
Suetonius (Roman historian) 201
Suffolk, England: Mansions **658-659,** 663, 674
Suffolk, Va. 74, 91
Sugar, James A., photographer: ***Our Restless Planet Earth.*** Aug., 142-181
Sugar refinery: Nicaragua 805
Suhami, Avraham **13**
Sulfur **175**
Sultan Yaqub, Lebanon 31
Sumatra (island), Indonesia: ***Saving the World's Largest Flower.*** By Willem Meijer. July, 136-140
Sumhuram (ancient port), Oman 483
Suqs: North Yemen 500-501, **501;** Saudi Arabia 505, **510-511;** South Yemen 486-487, 488, **493**
Surgery: Brain surgery **392;** *see also* In vitro fertilization; Plastic surgery
Suspect terranes: Defined 156
Svanetia (region), U.S.S.R.: Gold 420
Swan Creek, Alaska: Cygnet **556**
Swan Hill, Australia: Sheep **260**
Swans *see* Trumpeter swans
Swanscombe, England: Fossil 612
Swartkrans, South Africa: Caves: Diagram **607,** excavations 598, **606,** 607, fossils **569-570,** 598, 607, **607**
Swiss Guard **733, 740-741,** 742, 743, 744-745; Barracks **727,** 741; History 739, 741, 744; Induction of halberdiers **740-741,** 745; Training **738-739, 740,** 745
Symplegades (boulders), Bosporus 410, 416-417; Painting **410-411**
Syon House, Greater London, England 663; Anteroom **692;** Entrance hall **693**
Syria: Golan Heights, loss of 11, 30; Lebanon, military in 31, 35; Soldiers 38

T

Taamilo, Michael Pale **462**
Tablet, stone: Enlène cave **619**
Tahiti (island), Society Islands: *Bounty* mutineers 423, 424, 426, 429, 449; *Pandora* **422-423,** 424, 429, 446
Talbot, Elizabeth (Bess of Hardwick) 661, 662, 664, 671
Tanai, Sara Levi 38
Tanker, burned-out: Bosphorus **406-407,** 415
Tanks (armored vehicles): Israeli-designed 20, **35**
Tanzania: Fossils 564, **570,** 599, 600, **601,** 605
Taoism 291, 294
Tarim, South Yemen: Mosques 488, **489,** 492
Tarpy, Cliff: ***Home to Kansas.*** Sept., 352-383
Tatoku Island, Japan 205
Tattooing: Western Samoa **465**
Tatupu, Mosi 462
Tauili'ili, High Chief 454, 456, 457, 458
Taung skull 574, 578, 579, 585, 595; Cast **579;** Hologram ***Nov. cover***
Taxidermist shop: Dakar **235**
Taylor, Elizabeth 222, **223**
Tea shops: Chengdu, China **295,** storyteller **298**
Teaford, Mark F. 597
Teeth: Early man 588, 597, **597,** 598, **612, 628;** Research **597**
Teferi, Guoy **399**
Tehran, Iran 128, **128;** *basij* **114-115;** Butcher shop **133;** Cemetery *see* Behesht-e-Zahra Cemetery; Murals **110,** 111; Murder trial **130-131;** Walking on enemy flags 1, **108-109**
Tehran University, Tehran, Iran: Assembly **122-123**
Teide, Pico de (volcano), Tenerife (island), Canary Islands 335
Tekeste, Assefaw 389
Tel Aviv, Israel **14-15;** Arab workers 12, 15; Arts 10, 15; Beaches 8, 12, **14-15;** Capital-city status 11; Orthodox influence 10; Population 11, 15; Tourism 12
Telegraphs: *Titanic* **716, 717**
Tenerife (island), Canary Islands: Volcano 335
Tennessee River Valley, U.S.: Cultured-pearl industry 193, 194, 207, **218,** 219
Terblanche, Gert 596
Terraced fields: North Yemen **502**
Terranes: ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181
Terrill, Ross: ***Sichuan: Where China Changes Course.*** Sept., 280-317
Terzis, Julia K. 84
Teseney, Ethiopia 388
Tesfamichael, Andemichael **405**
Teshik-Tash, U.S.S.R.: Neandertal graves 614
Tetrastigma lanceolarium (wild vine) 138, **138**
Teutonic College, Vatican City 743, 748
Theodore Roosevelt, U.S.S. 81
Theroux, Joe 460
Thiaw, Dial Lahi 226
Thomas, Doug 635, 638, 639
Thomas, Yannis 213
Thompson, Jack 462
Thorne, Alan G. **269,** 276, 617
Thynne, Christopher **683**
Tiberias, Israel 30
Tibetans: Sichuan 286, **316**
Tigray (province), Ethiopia 388
Tikul, Ethiopia: Bombing **392-393;** Captured soldiers **393**
Timna (ruins), South Yemen 492
Timor (island), Malay Archipelago 428, 429, 437
Tintern Abbey, Wales: Ruins 170
Titanic, S. S. 695; Foredeck ***Dec. cover; How We Found*** **Titanic.** By Robert D. Ballard in association with Jean-Louis Michel. Dec., 696-719
Toba, Japan: Cultured-pearl industry 203, 206
Tobacco growing: Nicaragua **794, 795**

Tobias, Phillip V. 592, 595, 600
Tokyo, Japan: Cultured-pearl industry 203, **204-205,** 205
Tom Groggin cattle station, Victoria, Australia 254, 256, 261
Tomb figure: Han Dynasty **298**
Tombs: Frankfort, Ky. **838;** Iran 128, **129;** Saudi Arabia **480-481,** 510-511; South Yemen **490-491,** 492; Western Samoa 472, **473;** Yaxchilán, Mexico 538
Tomograph, computerized **13**
Tools, stone *see* Stone tools
Topeka, Kans. 356, 380; Farm rally 354, **362;** Mental health facility 376, **377,** 379-380
Torah: Israeli soldier holding **9**
Torah, feast of the giving of the: Jews observing **4-5**
Torah Temima Elementary School, Jerusalem 28
Torquemada, Tomás de 735
Torralba, Spain: Stone Age butchering site 612
Totem: Bronze ram's head **419**
Toth, Nicholas 611
Touba, Senegal 227, 229, 234, **248-249;** Annual pilgrimage 229, 230-231, 234, 249
Toucan: Venezuela **335**
Tovarishch (square-rigged vessel) **414,** 415, 417-418
Townshend, Charles 672, 674
Trade routes, historical: ***Arabia's Frankincense Trail.*** By Thomas J. Abercrombie. Oct., 474-513
Tragic Sequel to* Bounty *Mutiny: Wreck of H.M.S.* Pandora *Found on Australia's Great Barrier Reef. By Luis Marden. Oct., 423-451
Trapridge Glacier, Yukon Territory, Canada **650-651**
Treasure, sunken 421
Treasures of the Vatican. Photos by James L. Stanfield and Victor R. Boswell, Jr. Dec., 764-775
Tree snake: Venezuela **332**
Trees: Carvings by Daniel Boone 819, 820, **821;** Historic elm 834, **834-835,** 840; *see also* Calamites; Eucalyptuses; *and* Logging
Tremblay, Larry 638-639
Tribune Jackrabbits (football team) **358-359**
Trilobites 185; Evolution 146, **149;** Fossils **184**
The Triumphant Trumpeter. By Charles A. Bergman. Oct., 544-558
Truck sale: Sichuan **288-289**
Trumpeter swans: ***The Triumphant Trumpeter.*** By Charles A. Bergman. Oct., 544-558
Adolescents 546, **546-547,** 557
Call 546, 548, 557
Cygnets 548, **554,** 555, **556,** 557, 558; Hatching 548, 555
Diet 548, 555, 557; Supplemental feedings 546, **556,** 557-558
Eggs 548, **555,** 557
Family behavior 557, 558
Habitat loss 549, 552, 558
Hazards faced 555, 558
Nesting: Nests 548, **553, 554, 555,** construction 550, 552; Reclusive behavior 552; Sites 549, 550, 552, **552-553,** 557, 558
Population increase 547, 548, 550, 552, 558
Protective legislation 548, 549
Range 548, map 549
Size 547, 548, 552, 557
Studies: Banding and collaring 550, **551,** 552, 558; Censuses 547, 548, 549, 550, 551
Wintering grounds **546-547,** 550, 552, **556,** 557-558; Map 549
Tryworks: Red Bay 42, 44, 47, 48, 51, 54, paintings **42-43, 46-47**
Tuamotu Archipelago *see* Marutea
Tube worms 164, **164, 165**
Tuck, James A. 41, 58; ***Unearthing Red Bay's Whaling History.*** July, 50-57
Tucker, Vera **275**
Tudor, Mary: Pearl owned by **223**
Tulu Bor Tuff (volcanic ash), Koobi Fora, Kenya **590-591**
Tuna industry: American Samoa 459, workers **461;** Basque fleet 69
Tundra swans 550; Cygnet **549**
Tupou, Pitoa'i **465**
Turbaco, Colombia: Mud volcanoes **338**
Turkana, Lake, Kenya: Hominid fossils 588, **601,** 605, 609, 625 *see also* KNM-WT 15000; Volcanic ash layers 588, 589, sampling **588;** *see also* Koobi Fora
Turkey: *Argo* volunteers 409, 412, 415, 416; Flag **406, 412**
Turner, Beryl 442, 446
Turner, Jack 557
Turner, Trudy **556,** 557-558
Turtles: Sculpture **621;** *see also* Green turtles
Tutuila (island), American Samoa 456, 458, 459, 460, 463; Break dancing **455,** 460; Family at home **456-457;** Football game **462-463;** *see also* Pago Pago
Twin Island, Canada: Basque artifacts **55**
Twitty's Fort, Ky. 828
The Two Samoas, Still Coming of Age. By Robert Booth. Oct., 452-473
Tyrannosaurus 146, **150**
Tzeltal Indians 527

U

Ukhdud (ruin), Saudi Arabia 501
Ulrich, Carl 189
Ultra-Orthodox Jews 28, **30, 31,** 38
Underwater exploration *see* Archaeology, underwater
Unearthing Red Bay's Whaling History. By James A. Tuck. July, 50-57
Union of Soviet Socialist Republics: Foreign aid: Ethiopia 388, 389, Nicaragua 778, 782, 793, 804, military equipment **776-777,** 780, 785; Iran's hatred of 114, defacement of flag 1, **109;** *see also* Abkhazian A.S.S.R.
United Arab Emirates 496
United Nations: Eritrea resolution 388; Shibam preservation efforts 492; World Heritage Site (Kluane) 632, 639
United States: *Central Plains,* The Making of America map series. Sept. supplement; Foreign aid: Contras 778, 793, 809, Ethiopian famine relief 391, black market trade 403, Israel 19, 20; Humboldt's visit 318, 319, 320, 345; Iran's hatred of 114, defacement of flag 1, **108-109;** *Ohio Valley,* The Making of America map series. Dec. supplement; ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181; Pearl industry 193, 194, 206, 207, 218-219, **218-219,** 222, imports 206, 213, 217, 221; *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement; Trade sanctions against Nicaragua 778, 782, 785, 791, 794; ***The Triumphant Trumpeter.*** By Charles A. Bergman. Oct., 544-558; *see also* Kansas; Kentucky; Virginia
United States, S. S. 79-80
U. S. Air Force 21
U. S. Army: Enlistment office **462;** Troop training **95**
U. S. Embassy, former, Tehran, Iran: Conference room **124;** Shredded documents **124-125**
U. S. Fish and Wildlife Service: Trumpeter-swan censuses **550-551,** 551
U. S. Geological Survey: Researchers 155-156, **158, 159,** 177, 179
U. S. Highway 25-E 827, **827**
U. S. Marines: Nicaragua, deployment in (1909-1933) 786, 787, **787,** 792, withdrawal 792
U. S. Maritime Administration 80, 107
U. S. Navy: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
U. S. Route 58 826, 827
University of Adelaide, Adelaide, Australia 278
University of Kansas, Lawrence, Kans. 355, 362, 376
University of Nevada, Reno, Nevada: Basque studies 70
'Upolu (island), Western Samoa 463, 464, **466-467;** Tattooing session **465;** Title-granting ceremony **464;** Tomb of Robert Louis Stevenson 472, **473;** *see also* Apia
Urban VIII, Pope 742
Urrutia, Miguel de 70
Usher, David **171**
Ussher, James 559

Usumacinta River basin, Guatemala-Mexico: ***The Usumacinta River: Troubles on a Wild Frontier.*** By S. Jeffrey K. Wilkerson. Oct., 514-543
Agriculture 525; Crop failure 518-519, 528, 536, 543
Cattle raising 519, 528, 529
Dams and reservoirs, planned 522, 524, 525, 539, 540, 543
Guatemalan guerrillas 514, 522, **522-523,** 525, 531, 532, 533, 534, 535, 536, 539, 540
History: Cortés' travels 540, 543; Maya civilization 514, 520, 524, 525, 527, 532, 539, 541
Indians 520, 527, 543; *see also* Settlers, *below*
Logging 525, 529, 530, 531, 543
Maps 514, 524-525
Maya remnant groups 514, 527
Maya sites and artifacts 514, **520, 521,** 524, 532, 536, **537,** 538, **538,** 539, **539, 541;** Looting 532, 536; Threat of proposed reservoirs 514, 524, 525, 539, 540, 543
Oil exploration 514, 525, 529-530, 543
Rain forest, depletion of 514, 518-519, 525, 528, 529, 543
Refugees 514, 524, 530-531, 535; Camps 524, 525, 530-531, **531**
River's course 516-517, 540, 543
Roads and road building 524, 525, 529, 531, **533,** 540, 543
Settlers 514, **518-519,** 524, 525, 527, 530
Waterfalls 529, 532, 539, 540, **542**
Wildlife **515,** 527, 528, **528,** 529, 532, 536, 539, 543
Utz, Martino **738**

V

Vaea, Mount, Western Samoa: Tomb of Stevenson 472, **473**
Valles Caldera, N. Mex.: Hot spring 181
Van Hees, Violet **634**
Vanbrugh, Sir John 665
Vanderbilt, Consuelo 689; Painting **670**
Vandermeersch, Bernard 615
Vani, U.S.S.R.: *Argo* expedition 417, welcoming gala 418, **420;** Golden objects 420
Vasari, Giorgio: Frescoes by **732-733**
Vascones *see* Basques
Vatican City: ***Treasures of the Vatican.*** Dec., 764-775; ***Vatican City.*** By James Fallows. Dec., 723-761
Aerial view **726-727**
Antiquities, collections of 755, 771, 773
Archives 775
Area 728, 734
Art **731, 732-733, 744,** 755, 761; Restoration 748, 754, 755, 756, 757, **760,** 761, **761,** 769; *see also* Goldwork; Sculpture; *below*
Bank 749, 752; President **749**
Bureaucracy 743, 744, 754
Citizenry 743; Daily life 743, 752
Colleges 743, 748-749
Diplomatic corps 743, 749, 754
Flag **728,** 742
Founding 724, 728, 734-735
Goldwork **765, 770-771**
Guards *see* Swiss Guard
History 723-724, 728, 734-735
Map 728
Museums 728, 755, 769, 771, 773
Papal apartments **727, 743,** 745
Sculpture **721,** 742, 755, **768,** 771, **772-773**
Secretary of State 743, **754**
Work force 728, 742, 743, 754
see also St. Peter's Square; Sistine Chapel
Vatican Library **766-767,** 775
Vatican Radio 742, 754-755; Studios 755, **756**
Vaughan, Henry: Quoted 614
Vegter, Henri 266
Velasco, Victoria 527
Venezuela: Rain forest **333;** Wildlife **332,** 336
Ventersdorp Contact Reef (gold deposit), South Africa 176
Vermeulen, Walter 468-469
Verrio, Antonio: Room painted by **677**
Vértesszöllös, Hungary: Fossil skull 610
Vesilind, Priit J.: ***Israel: Searching for the Center.*** July, 2-39
Veterans *see* Vietnam veterans
Via Dolorosa, Jerusalem: Pilgrim **8**
Victoria (state), Australia: ***The Land Where the Murray Flows.*** By Louise E. Levathes. Aug., 252-278
Victorian houses: Virginia **84-85**
Video: Underwater exploration 705, 706, screens **706**
Vietnam veterans: Counseling information 141
Vindija Cave, Yugoslavia: Strata **613**
Virginia: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
Virginia Beach, Va.: ***Hampton Roads, Where the Rivers End.*** By William S. Ellis. July, 72-107
Virginia Opera: Fundraiser **78**
Vitamin A poisoning: *Homo erectus* 610
Vitellius (Roman general) 201
Vitoria, Spain: Basque capital 71
Volcanic ash **590-591;** Fossil dating 588, 589, 590, 591
Volcanoes: Canary Islands 335; Ecuador 324-325, 326, 342, 343, 344; Mexico 166, **326-327,** 527; Nicaragua 778, 780, geothermal energy 780, 787; ***Our Restless Planet Earth.*** By Rick Gore. Aug., 142-181
Volcanoes, mud: Colombia **338, 339**
Volos, Greece: *Argo* voyage 409
Vosmer, Tom 408, 409
Vrba, Elisabeth S. 582, 596, 599, 600

W

Wadda, S.A.T. 238
Waddell, Peter **40-41,** 41, 64
Wadi Bayhan, South Yemen: Caravans 493; Indigo workshop 492
Wadi Hadramawt, South Yemen 482, 490
Wadi Jawf, North Yemen 496
Wadi Musa, Jordan 511
Wadi Rum, Jordan 511
Waikerie, Australia: Sailplaning 277-278
Wailing Wall *see* Western Wall
Wakool, Australia: Saline soil 263
Wales: Ancient tribes 169; Country houses *see* Kinmel Park, Powis Castle; Fossils 167, 169, 170; Geography 169, 170
Walker, Alan 609, 610, **628; Homo Erectus *Unearthed.*** By Richard Leakey and Alan Walker. Nov., 624-629
Walker, Felix 827, 828, 830
Walker, Thomas 815, 823
Walker, William 782, 787
Walpole, Sir Robert 672, 674
Walter, Thomas U. 105
Walters, Juett "Bucky" 830
Wang Jiayou 287
Wang Junying **291**
Wang Yongdi 288
Ward, Fred: ***The Pearl.*** Aug., 193-223
Ward, Thomas E. 104
Warren County, Mo.: Graveyard **838-839**
Warriors' Path (Indian trail) 822, 824, 827
Wasatch Range, Utah 178
Washburn, Bradford 654, 657, **657**
Washington: Trumpeter swans **544-545,** 550, 558
Washington, D.C.: Humboldt's visit 345
Waspam, Nicaragua: Church **801;** Citizens relocated 798, 799
Watches: Shipwreck relics **444, 445,** 446, **696,** 718
Water *see* Floods; Hydroelectricity; Irrigation
Water slide: Israel **17**
Water Sport (catamaran) 441
Waterfalls: Jinzhaigou **316-317;** Usumacinta basin 529, 532, 539, 540, **542**
Waterside (pavilion), Norfolk, Va. **82,** 105
Watson, Ian 176
Way of Sorrow *see* Via Dolorosa
Weaver, Kenneth F.: ***The Search for Our Ancestors.*** Nov., 560-623
Weaving: Western Samoa **470,** 471
Wedding celebration: Sichuan **306-307**

UMI

Wei Yuan Restaurant, Chongqing, China: Kitchen **310-311**
Weidenreich, Franz 609
Weight lifter: Chongqing **296**
Weil, Peter 246, 248
Weinstein, Fred **100**
Welbeck Abbey, Nottinghamshire, England 663, 689
Welder: Chongqing **297**
Wells, Ray **159**
Wentworth Woodhouse, Yorkshire, England 663, 686
Werner, A. G. 326, 344
West Africa: ***Senegambia—A Now and Future Nation.*** By Michael and Aubine Kirtley. Aug., 224-251
West Bank, Israeli-occupied territory: ***Israel: Searching for the Center.*** By Priit J. Vesilind. July, 2-39
West China Coffeehouse, Chengdu, China 290-291
West Coast (region), U. S.: Geology 177, 178-179, graphs **152, 153;** *The Shaping of a Continent; Earth's Dynamic Crust.* Aug. supplement; *see also* California; Washington
West Sussex, England: Petworth House 663, 674
Western Australian Marine Research Laboratories 212
Western Australian Museum 438; Archaeological director 442
Western Samoa: ***The Two Samoas, Still Coming of Age.*** By Robert Booth. Oct., 452-473
Agriculture 466; Coconut-palm pollination **471;** Products 454, 466; Progressive farming, trend toward 466-468
Capital *see* Apia
Economy 464, 466, 467; Agricultural products 454, 466; Overseas remittances 466; United Nations aid 471
Emigration 460, 468
Exports 466
Facts and figures 454
Flag **454**
Food 466, 469, **471,** 472
History 455, 464; Independence 454, 455, 464
Imports 466, 467, 469
Map 454
Medicine and health 468-469
Population 454; Youth 468
Religion 454; Churches 464, **468;** Praying children **469**
United Nations classification 455, 464
Weavers **470,** 471
see also Savai'i; 'Upolu
Western Wall, Jerusalem **4-5**
Wetlands: ***The Triumphant Trumpeter.*** By Charles A. Bergman. Oct., 544-558
Whale oil 42, 58, 62
Whaleboats, Basque 44, **44-45,** 45, 62
Whaling: ***16th-Century Basque Whalers in America.*** July, 40-71
Wheat and wheat growing: Kansas **352-353,** 356, 361, 362-363, 377, 382
Wheel making: Buggy shop **380**
Wheeler, Peter 409, **412**
Wheelock, Jaime 804-805
Whiddon, Hayes Louis, and family **93**
White, Tim 588-589, 590, **595**
White Cliffs of Dover, England: Formation 169
White Star Line: *Titanic* ownership 718
Whitwell, Hugh **445,** 446
Wichita, Kans. 356, 361, **372-373,** 374-375, 378-379
Wilderness Road, U. S. 816, 826, **826-827**
Wildlife refuges: ***The Triumphant Trumpeter.*** By Charles A. Bergman. Oct., 544-558
Wilkerson, S. Jeffrey K. **541;** ***The Usumacinta River: Troubles on a Wild Frontier.*** Oct., 514-543
Williams, John 457, 463, 468
Williams, Martyn 648, 652, 653
Wilson's warbler **646**
Wiltshire, England *see* Longleat House
Wina, Ethiopia: Grain storehouse 403
Windlasses: *Titanic* **698, 703, 708**
Wine bottles: *Titanic* **710-711**
Wing bridge: *Titanic* 712, **713**
Winona Vikings (football team) **358-359**
Witchetty grubs, grilled **275**
The Witwatersrand (region), South Africa: Gold 176-177
Wojtyła, Karol Cardinal *see* John Paul II, Pope
Woldu, Tzige 389
Wolf, David **839,** 841
Wolfe, Art, photographer: ***The Triumphant Trumpeter.*** Oct., 544-558
Wolinsky, Cary, photographer: ***Sichuan: Where China Changes Course.*** Sept., 280-317
Wolof (people) 227
Wolpoff, Milford 609
Wood, Alastair 278
Wood, Walter 654, **654,** 655, 657
Woods Hole Oceanographic Institution *see Titanic*
Wool industry: Australia 261, 270, 273
Worcester porcelain **78-79**
World War I: Turkish empire doomed by 505, 506
World War II: English country houses 689
World's largest flower *see Rafflesia arnoldii*
Wrangell-St. Elias National Park and Preserve, Alaska 632, 639
Wrangellia (terrane) 156
***Wreck of H.M.S.* Pandora.** By Luis Marden. Oct., 423-451
Wright, David 820, **821**
Wright, G.R.H. "Mick" 510-511
Wu Ju 294
Wyandotte County, Kans. 375

X

X rays: Cross-sectional scanner **13**
Xiao Yang 312, 313
Xichang, China 296
Xie Song **291**
Xindu County, China: Truck sale **288-289**

Y

Yadkin River Valley, N.C.: Agriculture 819; Boone family 814, 817, 818, 819
Yafo, Israel 12
Yamakatsu Pearl Company 205
Yang Tongqun **307;** Wedding celebration **306**
Yang Xizong 312-313
Yang Yian **293**
Yang Yunyao **298**
Yangtze River bridge, Chongqing, China: Nude statues 295-296
Yao Yun Xie 222
Yathrib, Saudi Arabia *see* Medina
Yaxchilán (Maya site), Mexico 525, 536, 538; Door lintel 538, **541;** Map locating 524; Temples **520,** 538, **538;** Threat of flooding 524, 539, 540
Yellowstone caldera: Eruptions 162-163, 177
Yellowstone National Park, Ida.-Mont.-Wyo.: Bison **162-163;** Hot spot 160, 162-163, 177, computer image **161;** Seismic risk graph **152**
Yemen Arab Republic *see* North Yemen
Yemen Hunt Oil Company: Well 496
Yemeni women: Jewish bride **2;** Veiled woman ***Oct. cover***
Yeshivas: Jerusalem 28
Ye Yushan 295-296
Yi (people) 286, 296, 297-299
Yinon, Sarah 28
Yirmibeşoğlu, Ersin 415
Yoder, Sam **380**
Yoder, Kans. 362, 380; Buggy shop **380**
Yoff, Senegal: Religious celebration **244-245**
Yolla Bolly (terrane): Computer-drawn image **154**
Yom Kippur: Chicken ritual 30
Yom Kippur War 11
Yorkshire, England *see* Castle Howard; Cawood Castle; Gilling Castle; Wentworth Woodhouse
Young Pioneers: South Yemen **497**
Younghusband Peninsula, Australia 278
Yugoslavia: Cave **613**
Yukon Territory, Canada *see* Kluane National Park Reserve
Yusuf, King (Arabia) 501
Yu Zaisan 288, 290

Z

Zacharias: Sistine Chapel fresco subject 761
Zambia: Fossils 612
Zanini, Lino 752
Zara, Ethiopia: Field hospital **394-395**
Zayadine, Fawzi 511, 512
Zayed al Nahayan, Sheikh (Abu Dhabi) 496
Zayyad, Ziad Abu 24
Zea, Bernardo 337, 338
Zealots (Judaism): Masada siege 22
Zebra: Teeth **597**
Zefat, Israel 2, 38
Zelaya, José Santos 792
Zhang Daoling 291
Zhao Ziyang 280, 284
Zhaojue, China 298, 299
Zhoukoudian, China: Fossils 608, 609
Zigong, China 286, 299, 313; Buses **312-313**
Zinjanthropus boisei (hominid) 599, 601
Zionism: Influence in Israel 2, 5
Zircon crystals: Dating 172, 173
Zorro *see* Diop, Mahmadou
Zubaidi, Khayran 492, 493
Zucker, Deddi 24
Zumárraga, Juan de 70
Zumwalt, Glen 378

INDEXING STAFF

JOLENE M. BLOZIS *Editor*
ANNE K. McCAIN *Assistant Editor*
TERESA P. BARRY *Issue Editor*
JEFFREY A. BROWN
GEORGE I. BURNESTON, III
JAMES B. ENZINNA
JOHN W. HARCHICK
DIANNE L. H. HARDY

UMI

UMI